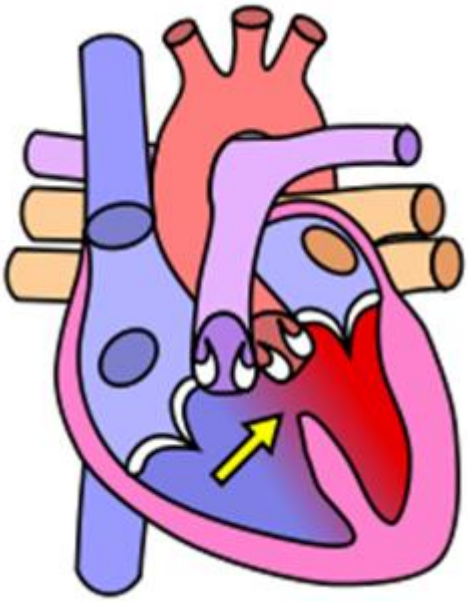
University Hospitals Bristol NHS
NHS Foundation Trust

Cardiac Nurses: Arrhythmia

Evidence Update



May 2018

Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.

Lunchtime Drop-in Sessions

All sessions last one hour

May (13.00-14.00)

3rd (Thu) **Critical Appraisal**

11th (Fri) **Statistics**

14th (Mon) **Literature Searching**

22nd (Tue) **Critical Appraisal**

30th (Wed) **Statistics**

June (12.00-13.00)

7th (Thu) **Literature Searching**

11th (Mon) **Critical Appraisal**

20th (Wed) **Statistics**

28th (Thu) **Literature Searching**

Your Outreach Librarian – Sarah Barrett

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New Additions to NICE, The Cochrane Library, and UpToDate®

NICE National Institute for Health and Care Excellence

Atrial fibrillation

Everything NICE has said on diagnosing and managing atrial fibrillation in an interactive flowchart

NICE Pathway Published June 2014 Last updated March 2018

Atrial fibrillation (QS93)

Evidence-based statements to deliver quality improvements in the identification, treatment and management of atrial fibrillation (AF) in adults

Quality standard Published July 2015 Last updated February 2018

Arrhythmias | Treatment summary

Source: British National Formulary - BNF - 12 April 2018

Arrhythmias | Treatment summary

Source: British National Formulary for Children - BNFc - 12 April 2018

Atrial fibrillation

Source: Clinical Knowledge Summaries - 28 February 2018

Cochrane Library

Factor Xa inhibitors versus vitamin K antagonists for preventing cerebral or systemic embolism in patients with **atrial fibrillation**

Karsten MH Bruins Slot and Eivind Berge

Online Publication Date: March 2018

UpToDate®

OpenAthens login required. Register here: https://openathens.nice.org.uk/

What's new in cardiovascular medicine

Authors: Gordon M Saperia, MD, FACC; Susan B Yeon, MD, JD, FACC; Brian C Downey, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** May 21, 2018.

Overview of catheter ablation of cardiac arrhythmias

Author: Leonard I Ganz, MD, FHRS, FACC
Section Editor: Samuel Lévy, MD
Deputy Editor: Brian C Downey, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 19, 2018.

Reentry and the development of cardiac arrhythmias

Author: Philip J Podrid, MD, FACC
Section Editor: Bernard J Gersh, MB, ChB, DPhil, FRCP, MACC
Deputy Editor: Brian C Downey, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 08, 2018.

Cardiac resynchronization therapy in heart failure: Implantation and other considerations

Author: Daniel J Cantillon, MD, FACC, HRS
Section Editor: Jonathan Piccini, MD, MHS, FACC, FAHA, FHRS
Deputy Editor: Susan B Yeon, MD, JD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Jan 30, 2018.

Atrial fibrillation: Anticoagulant therapy to prevent embolization

Authors: Warren J Manning, MD; Daniel E Singer, MD; Gregory YH Lip, MD, FRCPE, FESC, FACC
Section Editors: Peter J Zimetbaum, MD; Scott E Kasner, MD
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** May 16, 2018.

Epidemiology of and risk factors for atrial fibrillation

Authors: Leonard I Ganz, MD, FHRS, FACC; David Spragg, MD, FHRS
Section Editor: Peter J Zimetbaum, MD

Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 12, 2018.

Atrial fibrillation: Risk of embolization
Authors: Warren J Manning, MD; Daniel E Singer, MD
Section Editors: Peter J Zimetbaum, MD; Scott E Kasner, MD
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 26, 2018.

Atrial fibrillation and flutter after cardiac surgery
Author: Richard Lee, MD, MBA
Section Editors: Arie Pieter Kappetein, MD, PhD; Gabriel S Aldea, MD; Bradley P Knight, MD, FACC
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 13, 2018.

Control of ventricular rate in atrial fibrillation: Nonpharmacologic therapy
Author: Leonard I Ganz, MD, FHRS, FACC
Section Editor: Bradley P Knight, MD, FACC
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Apr 03, 2018.

Stroke in patients with atrial fibrillation
Author: Warren J Manning, MD
Section Editors: Peter J Zimetbaum, MD; Scott E Kasner, MD
Deputy Editors: Gordon M Saperia, MD, FACC; John F Dashe, MD, PhD

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 13, 2018.

The management of atrial fibrillation in patients with heart failure
Author: Brian Olshansky, MD
Section Editors: Wilson S Colucci, MD; Bradley P Knight, MD, FACC
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Mar 19, 2018.

Control of ventricular rate in atrial fibrillation: Pharmacologic therapy

Author: Leonard I Ganz, MD, FHRS, FACC; Section Editor: Bradley P Knight, MD, FACC
Deputy Editor: Gordon M Saperia, MD, FACC

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** May 15, 2018.

Recent Database Articles

Below is a selection of articles recently added to the healthcare databases. If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch: library@uhbristol.nhs.uk

1. Effect of corticosteroids on atrial fibrillation after catheter ablation: a meta-analysis.

Author(s): Jaiswal, Sanjay; Liu, Xian-Bao; Wei, Qu-Cheng; Sun, Ying-Hao; Wang, Li-Han; Song, Liu-Guang; Yang, Dan-Dan; Wang, Jian-An

Source: Journal of Zhejiang University. Science. B; ; vol. 19 (no. 1); p. 57-64

Publication Type(s): Journal Article

PubMedID: 29308608

Available at Journal of Zhejiang University-SCIENCE B - from Europe PubMed Central - Open Access

Available at Journal of Zhejiang University-SCIENCE B - from PubMed Central

Abstract:OBJECTIVEThe purpose of this meta-analysis was to explore the effect of corticosteroids on atrial fibrillation (AF) following catheter ablation.METHODSWe searched PubMed, Embase, and the Cochrane Central Register of Controlled Trials for published articles describing the effect of corticosteroids in preventing AF recurrence after catheter ablation. Data on study and patient were extracted. Risk ratios (RRs) and 95% confidence intervals (CIs) were calculated by use of a random-effect model, and P values of <0.05 were considered significant.RESULTSTwo randomized controlled trials (RCTs) and three cohort studies involving 846 patients were included in this meta-analysis. Within one month of catheter ablation, corticosteroid use was associated with a declined risk of recurrence of AF in RCT (RR 0.57, 95% CI 0.39 to 0.85, P=0.005), but without significant effect in cohort studies (RR 1.01, 95% CI 0.79 to 1.30, P=0.94). After three months of catheter ablation, corticosteroids did not have a significant effect in the prevention of late recurrence of AF in either RCT (RR 0.78, 95% CI 0.38 to 1.59, P=0.49) or cohort studies (RR 0.96, 95% CI 0.70 to 1.31, P=0.78).CONCLUSIONSOur meta-analysis suggested that periprocedural administration of corticosteroids of catheter ablation was associated with reduction of early but not late recurrence of AF.

Database: Medline

2. Anxiety and Depression in Patients with Permanent Atrial Fibrillation: Prevalence and Associated Factors.

Author(s): Polikandrioti, Maria; Koutelekos, Ioannis; Vasilopoulos, Georgios; Gerogianni, Georgia; Gourni, Maritsa; Zyga, Sofia; Panoutsopoulos, George

Source: Cardiology research and practice; 2018; vol. 2018 ; p. 7408129

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29670767

Available at Cardiology Research and Practice - from Europe PubMed Central - Open Access

Available at Cardiology Research and Practice - from Hindawi Open Access Journals

Available at Cardiology Research and Practice - from International DOI Foundation

Abstract: Atrial fibrillation (AF) is an important public health problem that is increasing at an alarming rate, worldwide. The most common type is permanent AF followed by the paroxysmal and persistent AF. Purpose. This study was aimed at exploring anxiety and depression and the associated factors in patients with permanent AF. Materials and Methods. The sample of the study included 170 AF patients. Data collection was performed by the method of interview using the "Hospital Anxiety and Depression Scale" (HADS) to assess anxiety and depression and a questionnaire including patients' characteristics. Results. 70% of the participants were men, and 32.4% were above 70 years old. Furthermore, 34.9% of the patients had high levels of anxiety, and 20.2% had high levels of depression. Anxiety levels were statistically significantly associated with gender (p=0.022), age (p=0.022), educational level (p=0.025), years having the disease (p=0.005), and relations with nursing staff (p=0.040). Depression levels were statistically significantly associated with age (p=0.037), degree of information of the state of health ($p < 0.001$), years having the disease ($p < 0.001$), and relations with medical staff (p=0.041). Conclusions. Patients' characteristics are associated with anxiety and depression and need to be evaluated when treating this frequently encountered arrhythmia.

Database: Medline

3. Role of rivaroxaban in the management of atrial fibrillation: insights from clinical practice.

Author(s): Vimalesvaran, Kavitha; Dockrill, Seth J; Gorog, Diana A

Source: Vascular health and risk management; 2018; vol. 14 ; p. 13-21

Publication Date: 2018

Publication Type(s): Journal Article Review

PubMedID: 29391805

Available at Vascular Health and Risk Management - from Europe PubMed Central - Open Access

Available at Vascular Health and Risk Management - from PubMed Central

Abstract: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, and it leads to significant morbidity and mortality, predominantly from ischemic stroke. Vitamin K antagonists, mainly warfarin, have been used for decades to prevent ischemic stroke in AF, but their use is limited due to interactions with food and other drugs, as well as the requirement for regular monitoring of the international normalized ratio. Rivaroxaban, a direct factor Xa inhibitor and the most commonly used non-vitamin K oral anticoagulant, avoids many of these challenges and is being prescribed with increasing frequency for stroke prevention in non-valvular AF. Randomized controlled trial (RCT) data from the ROCKET-AF(Rivaroxaban once daily oral direct Factor Xa inhibition compared with vitamin K antagonism for prevention of stroke and embolism trial in atrial fibrillation) trial have shown rivaroxaban to be non-inferior to warfarin in preventing ischemic stroke and systemic embolism and to have comparable overall bleeding rates. Applicability of the RCT data to real-world practice can sometimes be limited by complex clinical scenarios or multiple comorbidities not adequately represented in the trials. Available real-world evidence in non-valvular AF patients with comorbidities - including renal impairment, acute coronary syndrome, diabetes mellitus, malignancy, or old age - supports the use of rivaroxaban as safe and effective in preventing ischemic stroke in these subgroups, though with some important considerations required to reduce bleeding risk. Patient perspectives on rivaroxaban use are also considered. Real-world evidence indicates superior rates of drug adherence with rivaroxaban when compared with vitamin K antagonists and with alternative non-vitamin K oral anticoagulants - perhaps, in part, due to its once-daily dosing regimen. Furthermore, self-reported quality of life scores are highest among patients compliant with rivaroxaban therapy. The generally high levels of patient satisfaction with rivaroxaban therapy contribute to overall favorable clinical outcomes.

Database: Medline

4. Digoxin for atrial fibrillation and atrial flutter: A systematic review with meta-analysis and trial sequential analysis of randomised clinical trials.

Author(s): Sethi, Naqash J; Nielsen, Emil E; Safi, Sanam; Feinberg, Joshua; Gluud, Christian; Jakobsen, Janus C

Source: PloS one; 2018; vol. 13 (no. 3); p. e0193924

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29518134

Available at PloS one - from Public Library of Science (PLoS)

Available at PloS one - from Europe PubMed Central - Open Access

Available at PloS one - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDDuring recent years, systematic reviews of observational studies have compared digoxin to no digoxin in patients with atrial fibrillation or atrial flutter, and the results of these reviews suggested that digoxin seems to increase the risk of all-cause mortality regardless of concomitant heart failure. Our objective was to assess the benefits and harms of digoxin for atrial fibrillation and atrial flutter based on randomized clinical trials.METHODSWe searched CENTRAL, MEDLINE, Embase, LILACS, SCI-Expanded, BIOSIS for eligible trials comparing digoxin versus placebo, no intervention, or other medical interventions in patients with atrial fibrillation or atrial flutter in October 2016. Our primary outcomes were all-cause mortality, serious adverse events, and quality of life. Our secondary outcomes were heart failure, stroke, heart rate control, and conversion to sinus rhythm. We performed both random-effects and fixed-effect meta-analyses and chose the more conservative result as our primary result. We used Trial Sequential Analysis (TSA) to control for random errors. We used GRADE to assess the quality of the body of evidence.RESULTS28 trials (n = 2223 participants) were included. All were at high risk of bias and reported only short-term follow-up. When digoxin was compared with all control interventions in one analysis, we found no evidence of a difference on all-cause mortality (risk ratio (RR), 0.82; TSA-adjusted confidence interval (CI), 0.02 to 31.2; I2 = 0%); serious adverse events (RR, 1.65; TSA-adjusted CI, 0.24 to 11.5; I2 = 0%); quality of life; heart failure (RR, 1.05; TSA-adjusted CI, 0.00 to 1141.8; I2 = 51%); and stroke (RR, 2.27; TSA-adjusted CI, 0.00 to 7887.3; I2 = 17%). Our analyses on acute heart rate control (within 6 hours of treatment onset) showed firm evidence of digoxin being superior compared with placebo (mean difference (MD), -12.0 beats per minute (bpm); TSA-adjusted CI, -17.2 to -6.76; I2 = 0%) and inferior compared with beta blockers (MD, 20.7 bpm; TSA-adjusted CI, 14.2 to 27.2; I2 = 0%). Meta-analyses on acute heart rate control showed that digoxin was inferior compared with both calcium antagonists (MD, 21.0 bpm; TSA-adjusted CI, -30.3 to 72.3) and with amiodarone (MD, 14.7 bpm; TSA-adjusted CI, -0.58 to 30.0; I2 = 42%), but in both comparisons TSAs showed that we lacked information. Meta-analysis on acute conversion to sinus rhythm showed that digoxin compared with amiodarone reduced the probability of converting atrial fibrillation to sinus rhythm, but TSA showed that we lacked information (RR, 0.54; TSA-adjusted CI, 0.13 to 2.21; I2 = 0%).CONCLUSIONSThe clinical effects of digoxin on all-cause mortality, serious adverse events, quality of life, heart failure, and stroke are unclear based on current evidence. Digoxin seems to be superior compared with placebo in reducing the heart rate, but inferior compared with beta blockers. The long-term effect of digoxin is unclear, as no trials reported long-term follow-up. More trials at low risk of bias and low risk of random errors assessing the clinical effects of digoxin are needed.SYSTEMATIC REVIEW REGISTRATIONPROSPERO CRD42016052935.

Database: Medline

5. Left atrial concomitant surgical ablation for treatment of atrial fibrillation in cardiac surgery: A meta-analysis of randomized controlled trials.

Author(s): Wang, Xinxin; Wang, Chunguo; Ye, Minhua; Lin, Jiang; Jin, Jiang; Hu, Quanteng; Zhu, Chengchu; Chen, Baofu

Source: PloS one; 2018; vol. 13 (no. 1); p. e0191354

Publication Date: 2018

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article

PubMedID: 29360851

Available at PLoS ONE - from Public Library of Science (PLoS)

Available at PLoS ONE - from Europe PubMed Central - Open Access

Available at PLoS ONE - from EBSCO (MEDLINE Complete)

Available at PLoS ONE - from PubMed Central

Abstract:INTRODUCTIONSurgical ablation is a generally established treatment for patients with atrial fibrillation undergoing concomitant cardiac surgery. Left atrial (LA) lesion set for ablation is a simplified procedure suggested to reduce the surgery time and morbidity after procedure. The present meta-analysis aims to explore the outcomes of left atrial lesion set versus no ablative treatment in patients with AF undergoing cardiac surgery.METHODSA literature research was performed in six database from their inception to July 2017, identifying all relevant randomized controlled trials (RCTs) comparing left atrial lesion set versus no ablative treatment in AF patient undergoing cardiac surgery. Data were extracted and analyzed according to predefined clinical endpoints.RESULTSEleven relevant RCTs were included for analysis in the present study. The prevalence of sinus rhythm in ablation group was significantly higher at discharge, 6-month and 1-year follow-up period. The morbidity including 30 day mortality, late all-cause mortality, reoperation for bleeding, permanent pacemaker implantation and neurological events were of no significant difference between two groups.CONCLUSIONSThe result of our meta-analysis demonstrates that left atrial lesion set is an effective and safe surgical ablation strategy for AF patients undergoing concomitant cardiac surgery.

Database: Medline

6. The safety and efficacy of hybrid ablation for the treatment of atrial fibrillation: A meta-analysis.

Author(s): Jiang, Yun-Qiu; Tian, Ying; Zeng, Li-Jun; He, Shu-Nan; Zheng, Zhi-Tao; Shi, Liang; Wang, Yan-Jiang; Wang, Yu-Xing; Yin, Xian-Dong; Liu, Xiao-Qing; Yang, Xin-Chun; Liu, Xing-Peng

Source: PloS one; 2018; vol. 13 (no. 1); p. e0190170

Publication Date: 2018

Publication Type(s): Research Support, Non-u.s. Gov't Meta-analysis Journal Article

PubMedID: 29298352

Abstract:INTRODUCTIONHybrid ablation, an emerging therapy that combines surgical intervention and catheter ablation, has become a viable option for the treatment of persistent atrial fibrillation. In this analysis, we aimed to evaluate the safety and efficacy of hybrid ablation, as well as compare the outcomes of one-step and staged approaches.METHODSWe conducted a search in major online databases and selected the studies that met the inclusion criteria. The primary endpoint was defined as no episode of atrial fibrillation or atrial tachycardia lasting longer than 30 seconds without administration of antiarrhythmic drugs.RESULTSSixteen studies including 785 patients (paroxysmal atrial fibrillation, n = 83; persistent atrial fibrillation, n = 214; long-standing persistent atrial fibrillation, n = 488) were selected. Average history of atrial fibrillation was (5.0±1.6) years. The pooled proportion of patients who were arrhythmia-free at the primary endpoint was 73% (95% CI, 64%-81%, Cochran's Q, P<0.001; I2 = 81%). The pooled rate of severe short-term complications was 4% (95% CI, 2%-7%, Cochran's Q, P = 0.01; I2 = 51%). The success rate after one-step procedures (69%) was lower than that after staged procedures (78%). The staged approach could ultimately prove to be safer, although complication rates were relatively low for both approaches (2% and 5%, respectively).CONCLUSIONSHybrid ablation is an effective and generally safe procedure. The current data suggest that staged hybrid ablation could be the optimal approach, as it is associated with a higher success rate and a seemingly lower complication rate. Additional randomized controlled trials are necessary to confirm these results.

Database: Medline

7. Baseline and postoperative levels of C-reactive protein and interleukins as inflammatory predictors of atrial fibrillation following cardiac surgery: a systematic review and meta-analysis.

Author(s): Weymann, Alexander; Popov, Aron-Frederik; Sabashnikov, Anton; Ali-Hasan-Al-Saegh, Sadeq; Ryazanov, Mikhail; Tse, Gary; Mirhosseini, Seyed Jalil; Liu, Tong; Lotfaliani, Mohammadreza; Sedaghat, Meghdad; Baker, William L; Ghanei, Azam; Yavuz, Senol; Zeriouh, Mohamed; Izadpanah, Payman; Dehghan, Hamidreza; Testa, Luca; Nikfard, Maryam; Sá, Michel Pompeu Barros de Oliveira; Mashhour, Ahmed; Nombela-Franco, Luis; Rezaeisadrabadi, Mohammad; D'Ascenzo, Fabrizio; Zhigalov, Konstantin; Benedetto, Umberto; Aminolsharieh Najafi, Soroosh; Szczechowicz, Marcin; Roever, Leonardo; Meng, Lei; Gong, Mengqi; Deshmukh, Abhishek J; Palmerini, Tullio; Linde, Cecilia; Filipiak, Krzysztof J; Stone, Gregg W; Biondi-Zoccai, Giuseppe; Calkins, Hugh

Source: Kardiologia polska; 2018; vol. 76 (no. 2); p. 440-451

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29354906

Available at Kardiologia polska - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDPostoperative atrial fibrillation (POAF) is a leading arrhythmia with high incidence and serious clinical implications after cardiac surgery. Cardiac surgery is associated with systemic inflammatory response including increase in cytokines and activation of endothelial and leukocyte responses.AIMThis systematic review and meta-analysis aimed to determine the strength of evidence for evaluating the association of inflammatory markers, such as C-reactive protein (CRP) and interleukins (IL), with POAF following isolated coronary artery bypass grafting (CABG), isolated valvular surgery, or a combination of these procedures.METHODSWe conducted a meta-analysis of studies evaluating measured baseline (from one week before surgical procedures) and postoperative levels (until one week after surgical procedures) of inflammatory markers in patients with POAF. A compre-hensive search was performed in electronic medical databases (Medline/PubMed, Web of Science, Embase, Science Direct, and Google Scholar) from their inception through May 2017 to identify relevant studies. A comprehensive subgroup analysis was performed to explore potential sources of heterogeneity.RESULTSA literature search of all major databases retrieved 1014 studies. After screening, 42 studies were analysed including a total of 8398 patients. Pooled analysis showed baseline levels of CRP (standard mean difference [SMD] 0.457 mg/L, $p < 0.001$), baseline levels of IL-6 (SMD 0.398 pg/mL, $p < 0.001$), postoperative levels of CRP (SMD 0.576 mg/L, $p < 0.001$), postoperative levels of IL-6 (SMD 1.66 pg/mL, $p < 0.001$), postoperative levels of IL-8 (SMD 0.839 pg/mL, $p < 0.001$), and postoperative levels of IL-10 (SMD 0.590 pg/mL, $p < 0.001$) to be relevant inflammatory parameters significantly associated with POAF.CONCLUSIONSPerioperative inflammation is proposed to be involved in the pathogenesis of POAF. Therefore, perioperative assessment of CRP, IL-6, IL-8, and IL-10 can help clinicians in terms of predicting and monitoring for POAF.

Database: Medline

8. Haematological indices as predictors of atrial fibrillation following isolated coronary artery bypass grafting, valvular surgery, or combined procedures: a systematic review with meta-analysis.

Author(s): Weymann, Alexander; Ali-Hasan-Al-Saegh, Sadeq; Popov, Aron-Frederik; Sabashnikov, Anton; Mirhosseini, Seyed Jalil; Liu, Tong; Tse, Gary; Lotfaliani, Mohammadreza; Ghanei, Azam; Testa, Luca; D'Ascenzo, Fabrizio; Benedetto, Umberto; Dehghan, Hamidreza; Roever, Leonardo; Sá, Michel Pompeu Barros de Oliveira; Baker, William L; Yavuz, Senol; Zeriouh, Mohamed; Mashhour, Ahmed; Nombela-Franco, Luis; Jang, Jae-Sik; Meng, Lei; Gong, Mengqi; Deshmukh, Abhishek J; Palmerini, Tullio; Linde, Cecilia; Filipiak, Krzysztof J; Biondi-Zoccai, Giuseppe; Calkins, Hugh; Stone, Gregg W

Source: Kardiologia polska; 2018; vol. 76 (no. 1); p. 107-118

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 28980298

Available at Kardiologia polska - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDNew postoperative atrial fibrillation (POAF) is one of the most critical and common complications after cardio¬vascular surgery precipitating early and late morbidities. Complete blood count (CBC) is an imperative blood test in clinical practice, routinely used in the examination of cardiovascular diseases.AIMThis systematic review with meta-analysis aimed to determine the strength of evidence for evaluating the association of haematological indices in CBC tests with atrial fibrillation following isolated coronary artery bypass graft (CABG), isolated valvular surgery, or a combination of these treatments.METHODSWe conducted a meta-analysis of studies evaluating pre- and postoperative haematological indices in patients with POAF. A comprehensive subgroup analysis was performed to explore potential sources of heterogeneity.RESULTSA literature search of all major databases retrieved 732 studies. After screening, 22 studies were analysed including a total of 6098 patients. Pooled analysis showed preoperative platelet count (PC) (weighted mean difference [WMD] = -7.07 × 109/L and $p < 0.001$), preoperative mean platelet volume (MPV) (WMD = 0.53 FL and $p < 0.001$), preoperative white blood cell count (WBC) (WMD = 0.130 × 109/L and $p < 0.001$), preoperative neutrophil-to-lymphocyte ratio (NLR) (WMD = 0.33 and $p < 0.001$), preoperative red blood cell distribution width (RDW) (WMD = 0.36% and $p < 0.001$), postoperative WBC (WMD = 1.36 × 109/L and $p < 0.001$), and postoperative NLR (WMD = 0.74 and $p < 0.001$) as associated factors with POAF.CONCLUSIONSHaematological indices may predict the risk of POAF

before surgery. These easily-performed tests should defi¬nitely be taken into account in patients undergoing isolated CABG, valvular surgery, or combined procedures.

Database: Medline

9. The effect of intravenous N-acetylcysteine on prevention of atrial fibrillation after coronary artery bypass graft surgery: a double-blind, randomised, placebo-controlled trial.

Author(s): Soleimani, Aria; Habibi, Mohammad Reza; Hasanzadeh Kiabi, Farshad; Alipour, Abbas; Habibi, Valiollah; Azizi, Soheil; Emami Zeydi, Amir; Sohrabi, Fatemeh Bozorg

Source: Kardiologia polska; 2018; vol. 76 (no. 1); p. 99-106

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 28980294

Available at Kardiologia polska - from EBSCO (MEDLINE Complete)

Abstract:BACKGROUNDAtrial fibrillation (AF) is one of the most frequently occurring dysrhythmias after coronary artery bypass graft (CABG) surgery.AIMThe aim of this study was to evaluate the effect of intravenous N-acetylcysteine (NAC) on the prevention of AF after CABG surgery.METHODSIn a double-blind, randomised controlled trial, a total of 150 patients who were scheduled for on-pump CABG surgery were randomly assigned into two groups. In group A, patients received an intravenous NAC infusion (50 mg/kg) after induction of anaesthesia. These patients additionally received two intravenous doses of NAC on postoperative days 1 and 2. Patients in group B received normal saline (as a placebo) with the same volume, during the same time interval. During the first three days after surgery, postoperative AF (POAF) was assessed by continuous electrocardiogram monitoring; serum high-sensitivity C-reactive protein (hsCRP) level was also assessed before and three days after surgery.RESULTSDuring follow-up, 17 patients (17/141, 12.1%) developed POAF. POAF occurred in four (5.6%) patients in the NAC group and 13 (18.8%) patients in the placebo group (OR 0.23; 95% CI 0.08-0.82; p = 0.02). In the multivariable logistic regression analysis, the only predictor of AF after CABG surgery was the use of NAC (OR 0.21; 95% CI 0.06-0.73; p = 0.01). Also, the hsCRP level trend in the NAC group was different from the trend in the control group (group time interaction or interaction effect) (p < 0.001).CONCLUSIONSIt seems that perioperative intravenous NAC therapy can be effectively used to reduce inflammation and the incidence of POAF after CABG surgery. The clinical trial registration number: IRCT2015040921669N1.

Database: Medline

10. Obstructive Sleep Apnea as a Risk Factor for Atrial Fibrillation: A Meta-Analysis.

Author(s): Youssef, Irini; Kamran, Haroon; Yacoub, Mena; Patel, Nirav; Goulbourne, Clive; Kumar, Shweta; Kane, Jesse; Hoffner, Haley; Salifu, Moro; McFarlane, Samy I

Source: Journal of sleep disorders & therapy; 2018; vol. 7 (no. 1)

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29657903

Abstract: ObjectivesTo conducted a meta-analysis assessing the relationship between Obstructive Sleep Apnea (OSA) and the risk of Atrial Fibrillation (AF).MethodsWe searched PUBMED, Medline, and Cochrane Library using the keywords "atrial fibrillation", "obstructive sleep apnea" and "sleep disordered breathing (SDB)". All subjects included had established diagnosis of OSA/SDB. We then compared the occurrence of AF versus no AF. Analysis done with Comprehensive Meta-Analysis package V3 (Biostat, USA).ResultsA total of 579 results were generated. Duplicates were removed and 372 records were excluded based on irrelevant abstracts, titles, study design not consistent with the stated outcome, or full-text unavailable. Twelve studies meeting the inclusion criteria were reviewed in full-text; 2 of these articles were eventually removed due to unconfirmed OSA diagnostic modality, and one was also removed based on a control group inconsistent with the other studies. Therefore, a total of 9 studies were included (n=19,837). Sample sizes ranged from n=160 patients to n=6841 patients. The risk of AF was found to be higher among OSA/SDB versus control group (OR; 2.120, C.I: 1.845-2.436, Z; 10.598 p: <0.001). The heterogeneity observed for the pooled analysis was Q-value; 22.487 df (Q); 8 P-value; 0.004, I-squared; 64.424 Tau2; 0.098, suggesting appropriate study selection and moderate heterogeneity.ConclusionOSA/SDB is strongly associated with AFib confirming the notion that OSA/SDB

populations are high risk for development of AF. Prospective studies are needed to ascertain the effect of the treatment of OSA/SDB for the prevention of AF, a growing health burden with serious consequences.

Database: Medline

11. Cryoablation for persistent and long standing persistent atrial fibrillation: A single centre experience

Author(s): Sawhney V.; Perera D.; Chatha S.; Baca L.; Cadd M.; Assadi R.; Lambiase P.; Ahsan S.; Chow A.; Lowe M.; Dhinoja M.; Finlay M.; Sporton S.; Earley M.; Schilling R.; Hunter R.

Source: Journal of Interventional Cardiac Electrophysiology; 2018; vol. 51 (no. 1)

Publication Date: 2018

Publication Type(s): Conference Abstract

Abstract: Background: Pulmonary vein isolation using the cryoballoon is an effective treatment option for patients with atrial fibrillation (AF). Although it is well established in the treatment of paroxysmal AF, the role of cryoablation in persistent AF remains unknown. We examined the procedural success and long-term outcomes of cryoablation in persistent AF and long standing persistent AF. Methods: A prospective single centre registry of consecutive patients undergoing cryoablation for persistent AF was analysed. All procedural data, complications and follow up were prospectively recorded. Patients were followed up at 3, 6 and 12 months with an ECG with open access to arrhythmia nurse specialists thereafter. Ambulatory monitoring was dictated by symptoms. Results: Over 28-month period, 251 patients underwent ablation with the cryoballoon for persistent AF. Sixty-six percent were male with a mean age of 63 +/- 13 years. Two hundred four (81%) had persistent AF (BB 1 year duration) and 47 (19%) had long standing persistent AF (BB 1 year). Acute procedural success (defined as pulmonary vein isolation using the cryoballoon alone) was 98%. Major complications were seen in four (1.6%) patients (two tamponades, one phrenic nerve palsy and one haematoma). Mean procedure time was 74 +/- 34 min and fluoroscopy time was 10 +/- 9 min. Over a follow-up of 1.7 +/- 0.5 years, the single procedure success rates were 114/177 (64%) for persistent AF and 17/27 (62%) for longstanding persistent AF. The rate of repeat procedures was 31/177 (18%) for persistent AF and 9/27 (33%) for longstanding persistent AF. Conclusions: Cryoablation for persistent AF is safe, fast and has good outcomes at 1-year follow-up. Cryoablation is reasonable as a first line option for patients with persistent AF and longstanding persistent AF. The short procedure time may help increase capacity of cardiac units to help meet the rising demand for AF ablation. Randomized controlled trials are needed to compare outcomes with different techniques.

Database: EMBASE

12. Arrhythmia outreach service

Author(s): Oriolo V.; Sice A.

Source: Journal of Interventional Cardiac Electrophysiology; 2018; vol. 51 (no. 1)

Publication Date: 2018

Publication Type(s): Conference Abstract

Abstract: Arrhythmia Advanced Nurse Practitioner Outreach Service Background: The Arrhythmia Advanced Nurse Practitioner (ANP) role encompasses a number of responsibilities, namely early patient assessment and risk stratification, admission avoidance, fast track to arrhythmia/electrophysiology services, reduced length of stay and robust/early follow-up, thus increasing patient safety. Methods:We completed a retrospective baseline audit between 02/01/17 and 15/01/17 (ten working days) of patients admitted with atrial fibrillation (AF), atrial flutter (A. Flutter), supraventricular tachycardia (SVT) and palpitations. Patients were identified via the hospital electronic records. The audit aims were as follows: to evaluate the number of admissions, report on the number of preventable admissions, and evaluate the rate of stroke risk stratification in patients with AF/A. Baseline Data: Twenty-one patients presented to the Emergency Department (ED) over the 2- week period. Eighty-one (n = 17/21) were admitted into hospital. Of those admitted, 67% (n = 14/17) could have been discharged if early specialist assessment had been available. Potential financial implications based on one bed-day stay per patient per annum were estimated at 100,800. Fourteen percent (n = 3/21) of patients were followed up after discharge. Only 47% (n = 10/21) of patients diagnosed with AF/A. Flutter had been risk stratified and had appropriate stroke preventative therapy commenced. To streamline patients' pathway the Arrhythmia ANP role was introduced. Results: Between 01/04/17 and 22/09/17 (100 working days), 127 patients presented to the Emergency Department with AF, A. Flutter, SVT and Palpitations. Only 35% of patients (n = 45/127) were admitted: follow up rate was 94% (n = 119/127). Risk stratification and adequate stroke preventative therapy was commenced in 96% (n = 122/127) of patients presenting with AF/A. Flutter. A nurse-led follow-up clinic was set up to provide early review post-discharge (two weeks). One hundred eighty-eight patients were referred

for follow-up (119 post-emergency, 65 from General Practitioners and 2 from other areas). Total estimated saving based on reduced admission per annum (based on one bed day): 49,200. Estimated income generated from clinic referrals: 50,896 per annum. Conclusions: These data suggest the Arrhythmia ANP role is effective at preventing hospital admissions, providing early risk stratification, specialist patient assessment and robust post-discharge follow-up. A patient satisfaction survey was developed to evaluate patients' experience of the service. One hundred percent of patients that attended the nurse-led follow up clinic reported that the care received by the ANP in ED and at clinic's appointment was good or excellent and that the clinic appointment was helpful and informative.

Database: EMBASE

13. A nurse-delivered mind fullness education intervention to reduce symptoms and improve quality of life in patients with paroxysmal atrial fibrillation: The mend-AF study

Author(s): Ottoboni L.; Wang P.; Cataldo J.

Source: Journal of Interventional Cardiac Electrophysiology; 2018; vol. 51 (no. 1)

Publication Date: 2018

Publication Type(s): Conference Abstract

Abstract: Background: Paroxysmal atrial fibrillation (PAF) increases stroke risk and can result in pronounced symptoms. Current treatment modalities are targeted at stroke risk reduction, rhythm restoration, rate control, and symptom reduction. Despite improved outcomes with catheter ablation procedures, symptoms persist and quality of life (QOL) is compromised. Therefore, less costly, more effective interventions for symptom reduction are needed. Objective: This study was to determine the effects of a six-week mindfulness meditation and AF education intervention (MEND AF) on overall symptoms, specific symptoms (anxiety, fatigue, and sleep disturbances) and QOL. The effect of meditation on PAF patients is unknown. Methods: Symptomatic patients were enrolled inMEND AF in a single center with a prospective, preposttest design. Inclusion criteria: BB 18 years of age; English speaking; able to ambulate independently; able to hear audio recorder; able to attend two 90-min sessions 6 weeks apart; and able to participate in weekly phone calls. Exclusion criteria: NYHA Class IV; life expectancy BB 6 month; hospitalized within the prior 3 months with unrelated PAF diagnosis; previous experience practicing mindfulness; cognitive impairment determined with the Mini-Cognitive screening; or schedule for PAF treatment procedure during the 6-week intervention. Each patient attended an indvidual initial introductory session, followed by 6 weeks of daily guided meditation and weekly review of education materials, and then returned for the final session. Efficacy was evaluated using the initial and final assessment scores on the Symptom Frequency/Severity Checklist, Cardiac Anxiety Questionnaire, Fatigue Severity Scale, the Pittsburg Sleep Quality Index, and the Atrial Fibrillation Effect on QOL Questionnaire. Results: A significant reduction in AF symptom frequency (19.71 to 13.14; p = 0.004) and severity (15.46 to 11.04; p = 0.001) was found. Anxiety, fatigue and sleep disturbance scores were decreased; but not significantly. A significant improvement QOL (89.09 to 90.47; p = 0.011) and two QOL subscales, treatment concern (89.50 to 91.34; p = 0.007) and symptom severity (89.23 to 90.84; p 0.003). Conclusions: This is the first study to examine the efficacy of a mindfulness meditation and AF education intervention for PAF patients. Results suggest that individuals who struggle with symptoms and reduced QOL from PAF could benefit from the MEND AF intervention.

Database: EMBASE

14. Association of epicardial adipose tissue with incidence, severity and recurrences of atrial fibrillation: Results of a systematic review

Author(s): Betancur L.; Duque L.; Vasquez E.M.; Diaz J.C.; Velasquez J.E.; Aristizabal J.; Marin J.; Uribe W.; Duque M.

Source: Revista Mexicana de Cardiologia; 2018; vol. 29 (no. 1); p. 55-66

Publication Date: 2018

Publication Type(s): Article

Abstract: Introduction: Atrial fi brillation is the most prevalent arrhythmia in clinical practice. Evidence has recently shown a relationship between epicardial adipose tissue and atrial fi brillation, which may be stronger than that for traditional obesity markers. Objective: To analyse the available evidence associating adipose epicardial tissue with incidence, severity and recurrences of atrial fi brillation. Methods: A systematic search in PubMed, EBSCO, Cochrane, SciELO and LILACS databases for observational studies published in the last 10 years, evaluating the association between atrial fi brillation and epicardial adipose tissue was undertaken. All

articles were evaluated by two authors and differences were solved by consensus. Results: After having screened and evaluated articles for quality, 15 were selected for the qualitative synthesis. All studies reported a statistically signifi cant association between total fat and periatrial epicardial adipose tissue and the presence of atrial fi brillation, which persisted after adjustment of covariates. The evidence was not uniform regarding arrhythmia severity. Periatrial epicardial fat was signifi cantly higher in patients who had a recurrent disease. Conclusion: the presence of epicardial adipose tissue (total and periatrial) is significantly associated with atrial fibrillation and arrhythmia recurrence.

Database: EMBASE

15. Radiofrequency ablation versus cryoablation in the treatment of paroxysmal atrial fibrillation: A meta-Analysis

Author(s): Hachem A.H.; Tahboub H.A.; Kamdar S.; Kanjwal S.; Soni R.; Marine J.E.; Kanjwal K.

Source: Cardiology Research and Practice; 2018; vol. 2018

Publication Date: 2018

Publication Type(s): Review

Available at Cardiology Research and Practice - from Europe PubMed Central - Open Access

Available at Cardiology Research and Practice - from Hindawi Open Access Journals

Available at Cardiology Research and Practice - from International DOI Foundation

Abstract: Background. Pulmonary vein isolation is commonly performed using radiofrequency energy with cryoablation gaining acceptance. We performed a meta-Analysis of randomized controlled trials which compared radiofrequency versus cryoablation for patients with atrial fibrillation. Methods. A systematic search strategy identified both published and unpublished articles from inception to November 10, 2016, in multiple databases. The primary outcomes for this meta-Analysis were long-Term freedom from atrial fibrillation at 12-month follow-up and overall postoperative complication rates. For all included studies, the methodological quality was assessed through the Cochrane Collaboration's tool for risk of bias. Results. A total of 247 articles were identified with eight being included in this review as they satisfied the prespecified inclusion criteria. Overall, there was no significant difference in freedom from atrial fibrillation at >=12-month follow-up between those receiving cryoballoon and radiofrequency ablation, respectively (OR = 0.98, CI = 0.67-1.43, I2 = 56, p=0.90). Additionally, the secondary outcomes of duration of ablation, fluoroscopy time, and ablation time failed to reach significance. Cryoballoon ablation had significantly greater odds of postoperative phrenic nerve injury at 12-month follow-up. Conclusions. Our meta-Analysis suggests that cryoballoon ablation provides comparable benefits with regard to freedom from atrial fibrillation at medium-Term follow-up, fluoroscopy time, ablation time, operative duration, and overall complication rate in comparison to radiofrequency ablation.

Database: EMBASE

16. Non-vitamin K antagonists oral anticoagulants are as safe and effective as warfarin for cardioversion of atrial fibrillation: A systematic review and meta-analysis

Author(s): Telles-Garcia N.; Dahal K.; Kocherla C.; Reddy P.; Lip G.Y.H.; Dominic P.

Source: International Journal of Cardiology; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract: Background: Current guidelines recommend anticoagulation using warfarin with bridging parenteral anticoagulation or one of the non-vitamin K antagonist oral anticoagulants (NOACs) to prevent thromboembolic events in patients undergoing cardioversion for atrial fibrillation (AF). We aimed to compare by meta-analytical techniques, the safety and efficacy of NOACs versus warfarin in patients undergoing cardioversion. Methods: PUBMED, EMBASE, Cochrane CENTRAL and CINAHL were searched electronically in addition to manual search for randomized controlled trials (RCTs) comparing NOACs and warfarin in patients undergoing cardioversion for AF. Mortality, major bleeding and ischemic and hemorrhagic stroke were compared between the two agents. Results: A total of 7 trials with 7588 total patients were included in the meta-analysis. NOACs, as compared to warfarin, resulted in similar risk of ischemic stroke [odds ratio (OR): 0.49 (95% confidence interval (CI): 0.20-1.19; P = 0.12], major bleeding [0.71 (0.37-1.38), P = 0.32], mortality [0.73 (0.32-1.67); P = 0.45], and hemorrhagic stroke [0.96 (0.11-8.70); P = 0.97]. The results were consistent across subgroup

analyses. Conclusions: Based on the current meta-analysis, NOACs and warfarin have comparable efficacy and safety in patients with atrial fibrillation undergoing cardioversion.Copyright © 2017

Database: EMBASE

17. Meta analysis of fluoroscopy reduction techniques for atrial fibrillation ablation

Author(s): Ferguson J.

Source: Journal of Interventional Cardiac Electrophysiology; 2018; vol. 51 (no. 1)

Publication Date: 2018

Publication Type(s): Conference Abstract

Abstract: Background. Low as reasonably achievable (ALARA) fluoroscopy (FL) exposure is a recommended guideline for atrial fibrillation (AF) ablation. We have reviewed published studies on techniques to reduce or eliminate FL for AF ablation. Methods. Randomized and cohort studies were identified searching the Ovid Medline and PubMed databases from 2007 to 2017. Key words included atrial fibrillation, ablation, fluoroscopy, radiation, fluoroless, reduction, minimal, minimize, no, zero. Studies were included if they reported techniques specifically intended to reduce FL exposure for AF ablation. Outcomes included FL time, secondary outcomes included FL time reduction (%), radiation dose area product (cGycm2) and procedure time. Results. We found 24 studies (6 randomized) including 7943 patients with paroxysmal and persistent AF from 9 countries, 18 studies reporting significant FL reductions (mean FL time 16 min, mean reduction in FL time 57%) and 6 studies complete elimination of FL for the entire procedure (407 patients). Techniques were grouped into 11 categories (Table). Intracardiac echo (ICE) was used in only 2/18 reduced FL studies but in all zero FL studies. Mean procedure time was significantly longer in zero vs. no FL cases (199 vs. 149 min, p = 0.01). Operators removed protective lead in techniques #1, 4, 6 and 11. Radiation dose was incompletely reported (12/24 studies, mean 946 cGycm2). No studies reported an increase in complications. Conclusion. Diverse techniques are used to reduce FL. Operators who commit to systematic FL reduction work-flow are able to significantly reduce or completely eliminate FL for AF ablation. Some work flows also allow removal of lead protection.

Database: EMBASE

18. Vitamin D and new-onset atrial fibrillation: A meta-analysis of randomized controlled trials

Author(s): Huang W.-L.; Yang J.; Wang H.-B.; Yang C.-J.; Yang Y.

Source: Hellenic Journal of Cardiology; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, which affects 1.5% to 2% of the general population. More than six million Europeans suffer from AF. To research vitamin D levels in the prevention of new-onset atrial fibrillation (AF), we conducted a systematic review of randomized controlled trials (RCTs). We focused on the vitamin D levels in the prevention of new-onset AF. The outcomes assessed were vitamin D levels, left ventricular ejection fraction (LVEF), and left atrium diameter. Six RCTs ultimately met the inclusion criteria in the meta-analysis. The outcomes of Vitamin D levels (MD = -4.27, 95% CI = -5.20 to-3.34, P = 0.30) in the new-onset AF showed no significant difference. The left atrium diameter (MD = 1.96, 95% CI = 1.48 to 2.60, P < 0.01) between new-onset AF and LVEF (MD = -0.92, 95% CI = -1.59 to -0.26, P < 0.01) showed significant difference. Our study shows that circulating vitamin D levels may not play a major role in the development of new-onset AF.Copyright © 2017 Hellenic Society of Cardiology

Database: EMBASE

19. Association of catheter ablation for atrial fibrillation with mortality and stroke: A systematic review and meta-analysis

Author(s): Barra S.; Baran J.; Fynn S.; Heck P.; Grace A.; Agarwal S.; Narayanan K.; Marijon E.; Boveda S.; Primo J.; Providencia R.

Source: International Journal of Cardiology; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract: Background: Maintenance of sinus rhythm has been associated with lower mortality, but whether atrial fibrillation (AF) ablation per se benefits hard outcomes such as mortality and stroke is still debated.

Objective: To determine whether AF ablation is associated with a reduction in all-cause mortality and stroke compared with medical therapy alone. Methods: Literature search looking for both randomized and observational studies comparing AF catheter ablation vs. medical management. Data pooled using random-effects. Risk ratios (RR) with 95% confidence intervals (CI) used as a measure of treatment effect. The primary and secondary outcomes were all-cause mortality and occurrence of cerebrovascular events during follow-up, respectively. Results: Thirty studies were eligible for inclusion, comprising 78,966 patients (25,129 receiving AF ablation and 53,837 on medical treatment) and 233,990 patient-years of follow-up. The pooled data of studies revealed that ablation was associated with lower risk of all-cause mortality: 5.7% vs. 17.9%; RR = 0.44, 95% CI 0.32-0.62, p < 0.001. In a sensitivity analysis by study design, a survival benefit of AF ablation was seen in randomized studies, with no heterogeneity (mortality risk 4.2% vs. 8.9%; RR = 0.55, 95% CI 0.39-0.79, p = 0.001, I2 = 0%), and also in observational studies, but with marked heterogeneity (6.1% vs. 18.3%; RR = 0.39, 95% CI 0.26-0.59, p < 0.001, I2 = 95%). The mortality benefit in randomized studies was mainly driven by trials performed in patients with left ventricular (LV) dysfunction and heart failure. The pooled risk of a cerebrovascular event was lower in patients receiving AF ablation (2.3% vs. 5.5%; RR = 0.57, 95% CI 0.46-0.70, p < 0.001, I2 = 62%), but no difference was seen in randomized trials (2.2% vs. 2.1%; RR = 0.94, 95% CI 0.46-1.94, p = 0.87, I2 = 0%). Conclusions: Ablation of atrial fibrillation associates with a survival benefit compared with medical treatment alone, although evidence is restricted to the setting of heart failure and LV systolic dysfunction.

Database: EMBASE

20. Continuous and minimally-interrupted direct oral anticoagulant are both safe compared with vitamin K antagonist for atrial fibrillation ablation: An updated meta-analysis.

Author(s): Ha, Francis J; Barra, Sergio; Brown, Adam J; Begley, David A; Grace, Andrew A; Agarwal, Sharad

Source: International journal of cardiology; Jul 2018; vol. 262 ; p. 51-56

Publication Date: Jul 2018

Publication Type(s): Journal Article

PubMedID: 29606512

Abstract:BACKGROUNDThe appropriate and safe peri-procedural anticoagulation schedule for patients on a direct oral anticoagulant (DOAC) undergoing AF ablation is not known. We aimed to evaluate the safety and efficacy of both continuous and minimally-interrupted novel oral anticoagulant (DOAC) strategies compared with uninterrupted vitamin K antagonist (VKA) for atrial fibrillation (AF) ablation.METHODSWe searched electronic databases for randomized or prospective controlled observational studies comparing DOAC (continuous or interrupted) versus uninterrupted VKA. The primary endpoint was major bleeding. Secondary endpoints were total bleeding (composite of major and minor bleeding) and symptomatic thromboembolism. Data were analyzed by random-effects modeling and sensitivity analyses performed according to study design and peri-procedural DOAC schedule.RESULTSThirteen studies (4 randomized, 9 observational) with 5463 patients were included in final analysis (45% on DOAC). DOAC was associated with less major bleeding compared with VKA in pooled randomized studies (odds ratio [OR] 0.27, 95% confidence interval [CI] 0.09-0.80, p = 0.03, I2 = 0%), however there was no difference on overall analyses (OR 0.70, 95% CI 0.39-1.24, p = 0.22, I2 = 27%). When stratified by DOAC dose schedule, there was no difference in major bleeding for continuous DOAC (OR 0.48, 95% CI 0.21-1.11, p = 0.09, I2 = 6%) or minimally-interrupted DOAC (OR 0.81, 95% CI 0.37-1.76, p = 0.60, I2 = 43%) compared with VKA. There was no difference between DOAC and VKA for risk of total bleeding (p = 0.20) or symptomatic thromboembolism (p = 0.78).CONCLUSIONContinuous and minimally-interrupted DOAC are both safe and non-inferior peri-procedural anticoagulation strategies compared with uninterrupted VKA for AF ablation. DOAC in general is associated with reduced major bleeding as demonstrated in pooled randomized studies.

Database: Medline

21. Risk factors for new-onset atrial fibrillation: A focus on Asian populations.

Author(s): Li, Yanguang; Pastori, Daniele; Guo, Yutao; Wang, Yutang; Lip, Gregory Y H

Source: International journal of cardiology; Jun 2018; vol. 261 ; p. 92-98

Publication Date: Jun 2018

Publication Type(s): Journal Article

PubMedID: 29657061

Abstract: The incidence of new-onset atrial fibrillation (NOAF) is increasing both in the Asian populations and Western countries. Several demographic and clinical risk factors were independently associated with NOAF, including ageing, male sex, obesity, obstructive sleep apnea syndrome, hypertension, coronary artery disease, renal dysfunction and heart failure. However, some differences in the incidence of NOAF, the prevalence of some risk factors and lifestyle or environmental conditions may exist between Asian and Western countries. Early recognition and holistic management of risk factors in an integrated manner may help reduce the burden of NOAF and its complications. While some risk scores have been developed to predict the risk of NOAF, thus far none are currently recommended or adequately validated to be used as a screening tool especially in the Asian population. The present semi-systematic review article aims to provide a comprehensive overview on the risk factors associated to NOAF, focusing on those explored in the Asian populations.

Database: Medline

22. Restarting oral anticoagulant therapy after major bleeding in atrial fibrillation: A systematic review and meta-analysis.

Author(s): Proietti, Marco; Romiti, Giulio Francesco; Romanazzi, Imma; Farcomeni, Alessio; Staerk, Laila; Nielsen, Peter Brønnum; Lip, Gregory Y H

Source: International journal of cardiology; Jun 2018; vol. 261 ; p. 84-91

Publication Date: Jun 2018

Publication Type(s): Journal Article

PubMedID: 29572080

Abstract:BACKGROUNDUse of oral anticoagulant (OAC) therapy in atrial fibrillation (AF) is associated with an inherited risk of bleeding. Benefits and risks of OAC restarting after a major bleeding are still uncertain. We aimed to assess effectiveness and safety of restarting OAC in AF patients after a major bleeding event.METHODSWe performed a systematic review and meta-analysis of all studies reporting data about AF patients that sustained a major bleeding, reporting data on restarting or not restarting OAC therapy.RESULTSA total of seven studies were included, involving 5685 patients. No significant difference was found in "any stroke" occurrence between OAC restarters and non-restarters (odds ratio [OR]: 0.75, 95% confidence interval [CI]: 0.37-1.51), with a significant 46% relative risk reduction (RRR) ($p < 0.00001$) for "any thromboembolism" in OAC restarters, with consistent results when the index bleeding event was an intracranial or gastrointestinal bleeding. A significantly higher risk of recurrent major bleeding was seen (OR: 1.85, 95% CI: 1.48-2.30), but no difference in risk for recurrence of index event. OAC restarters had a 10.8% absolute risk reduction for all-cause death (OR: 0.38, 95% CI: 0.24-0.60); $p < 0.00001$). Net clinical benefit (NCB) analysis demonstrated that restarting OAC therapy after a major bleeding was significantly associated with a clinical advantage (NCB: 0.11, 95% CI: 0.09-0.14; $p < 0.001$).CONCLUSIONSRestarting OAC therapy after a major bleeding event in AF was associated with a positive clinical benefit when compared to non-restarting OAC, with a significant reduction in any thromboembolism and all-cause mortality.

Database: Medline

23. Catheter ablation versus medical therapy for patients with persistent atrial fibrillation: a systematic review and meta-analysis of evidence from randomized controlled trials.

Author(s): Chen, Chen; Zhou, Xinbin; Zhu, Min; Chen, Shenjie; Chen, Jie; Cai, Hongwen; Dai, Jin; Xu, Xiaoming; Mao, Wei

Source: Journal of interventional cardiac electrophysiology : an international journal of arrhythmias and pacing; Jun 2018; vol. 52 (no. 1); p. 9-18

Publication Date: Jun 2018

Publication Type(s): Journal Article

PubMedID: 29549512

Abstract:PURPOSEThe superiority of catheter ablation (CA) for persistent (and long-standing persistent) atrial fibrillation (AF) is currently not well defined. We performed a meta-analysis of randomized controlled trials (RCTs) to assess the clinical outcomes of CA compared with medical therapy in persistent AF patients.METHODSWe systematically searched PubMed, EMBASE, the Cochrane Library, and clinicaltrials.gov for RCTs comparing CA with medical therapy in patients with persistent AF. For CA vs medical rhythm control, the primary outcome was freedom from atrial arrhythmia. For CA vs medical rate control, the primary outcome was the change in the left ventricular ejection fraction (LVEF).RESULTSEight studies with a total of 809 patients were included in the final analysis. Compared with medical rhythm control,

CA was superior in achieving freedom from atrial arrhythmia (RR 2.08, 95% CI [1.67, 2.58]; P < 0.00001). Similar result was found in CA arm without antiarrhythmic drug use after operation (RR 1.82, 95%CI [1.33, 2.49]; P = 0.0002). CA was also superior in reducing the probability of cardioversion (RR 0.59, 95%CI [0.46, 0.76]; P < 0.0001) and hospitalization (RR 0.54, 95%CI [0.39, 0.74]; P = 0.0002). Compared with the medical rate control in persistent AF patients with heart failure (HF), CA significantly improved the LVEF (MD 7.72, 95%CI [4.78, 10.67]; P < 0.00001) and reduced Minnesota Living with Heart Failure Questionnaire scores (MD 11.1395% CI [2.52-19.75]; P = 0.01).CONCLUSIONSCA appeared to be superior to medical therapy in persistent AF patients and might be considered as a first-line therapy for some persistent AF patients especially for those with HF.

Database: Medline

24. An open-Label, 2 x 2 factorial, randomized controlled trial to evaluate the safety of apixaban vs. vitamin K antagonist and aspirin vs. placebo in patients with atrial fibrillation and acute coronary syndrome and/or percutaneous coronary intervention: Rationale and design of the AUGUSTUS trial

Author(s): Lopes R.D.; Vora A.N.; Granger C.B.; Alexander J.H.; Liaw D.; Darius H.; Goodman S.G.; Mehran R.; Windecker S.

Source: American Heart Journal; Jun 2018; vol. 200 ; p. 17-23

Publication Date: Jun 2018

Publication Type(s): Article

Abstract: Background: The optimal antithrombotic strategy for patients with atrial fibrillation (AF) who develop acute coronary syndrome (ACS) and/or the need for percutaneous coronary intervention (PCI) is uncertain. The risk of bleeding is a major concern when oral anticoagulation is required to prevent stroke, and concomitant therapy with antiplatelet agents is required to minimize recurrent ischemic events. Design: AUGUSTUS is an international, multicenter randomized trial with a 2 x 2 factorial design to compare apixaban with vitamin K antagonists and aspirin with placebo in patients with AF who develop ACS and/or undergo PCI and are receiving a P2Y12 inhibitor. Patients will be evaluated for eligibility during their ACS and/or PCI hospitalization. The primary outcome is the composite of major and clinically relevant nonmajor bleeding defined by the International Society on Thrombosis and Haemostasis. A key secondary outcome is the composite of all-cause death and all-cause hospitalization. Other secondary objectives are to evaluate ischemic outcomes including the composite of death, myocardial infarction, stroke, stent thrombosis, urgent revascularization, and all-cause hospitalization and each individual component. The aim is to enroll approximately 4,600 patients from around 500 sites in 33 countries. AUGUSTUS will provide insight into the optimal oral antithrombotic therapy strategy for patients with AF and concomitant coronary artery disease. The unique 2 x 2 factorial design will delineate the bleeding effects of various anticoagulant and antiplatelet therapies and generate evidence to guide the selection of the optimal antithrombotic regimen for this challenging group of patients. It is the largest and only prospective randomized trial to investigate in a blinded fashion the risk and benefits of aspirin on top of a non-vitamin K antagonist oral anticoagulant and P2Y12 receptor inhibition.

Database: EMBASE

25. Diagnosis and management of patients with atrial fibrillation.

Author(s): Elliott, Kay

Source: Nursing standard (Royal College of Nursing (Great Britain) : 1987); May 2018; vol. 33 (no. 2); p. 43-49

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29697213

Abstract: Atrial fibrillation is a common cardiac arrhythmia and is the most frequent arrhythmia experienced by older people. It is caused by chaotic electrical activity in the atria, leading to an irregular and often rapid heart rate. Atrial fibrillation is associated with an increased risk of ischaemic stroke, resulting from the turbulent blood flow in the atria. This article details the presentation of, and risk factors associated with, developing atrial fibrillation, the importance of reducing the risk of adverse events such as stroke, and the treatment options available. It also outlines the nursing role in the care of patients with the condition, as part of a multidisciplinary team approach.

Database: Medline

26. Meta-Analysis of Antithrombotic Therapy in Atrial Fibrillation After Percutaneous Coronary Intervention.

Author(s): Khan, Safi U; Khan, Muhammad U; Ghani, Ali Raza; Lone, Ahmad N; Arshad, Adeel; Kaluski, Edo

Source: The American journal of cardiology; May 2018; vol. 121 (no. 10); p. 1200-1206

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29548674

Abstract: Current clinical practice prefers oral anticoagulation (OAC) plus dual antiplatelet therapy (DAPT) in atrial fibrillation (AF) after percutaneous coronary intervention (PCI). We conducted a meta-analysis to test the hypothesis that the superiority of OAC plus DAPT is mainly endorsed by observational studies (OSs); conversely, randomized clinical trials (RCTs) have suggested that OAC plus a single antiplatelet (SAP) agent is a safer and equally effective approach. Nine studies (4 RCTs and 5 OSs) were selected using MEDLINE, EMBASE, and CENTRAL (Inception, October 31, 2017). In analysis of RCTs, OAC plus SAP was safer in terms of major bleeding compared with OAC plus DAPT (relative risk [RR] 0.70, 95% confidence interval [CI] 0.60 to 0.81, p <0.001). Conversely, analysis of OSs showed comparable risk of major bleeding among both groups (RR 0.92, 95% CI 0.65 to 1.29, p = 0.61). For major adverse cardiovascular events, RCTs restricted analysis (RR 0.93, 95% CI 0.68 to 1.27, p = 0.64) and analysis of OSs (RR 1.43, 95% CI 0.84 to 2.42, p = 0.19) showed similar outcomes between both strategies. Both regimens had a similar risk of myocardial infarction (MI) in RCTs restricted analysis (RR 1.18, 95% CI 0.89 to 1.56, p = 0.24); however, analysis of OSs showed 76% higher risk of MI with OAC plus SAP. In conclusion, in patients with AF after PCI, RCTs recommend OAC plus SAP for better safety and equal efficacy compared with OAC plus DAPT. These findings oppose the results of OSs that showed similar safety and reduced risk of MI with OAC plus DAPT.

Database: Medline

27. Relationship of troponin to incident atrial fibrillation occurrence, recurrence after radiofrequency ablation and prognosis: a systematic review, meta-analysis and meta-regression.

Author(s): Bai, Ying; Guo, Shi-Dong; Liu, Yue; Ma, Chang-Sheng; Lip, Gregory Y H

Source: Biomarkers : biochemical indicators of exposure, response, and susceptibility to chemicals; May 2018 ; p. 1-6

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29631448

Abstract:OBJECTIVETo explore the association between the levels of troponin (Tn) and incident atrial fibrillation (AF) occurrence, AF recurrence after radiofrequency ablation (RFA), and the risk trend of AF related prognosis (stroke, major bleeding and mortality).METHODSTwenty-seven studies were included after a systematic search in PubMed from 2005 to 2017, including 13 associated with incident AF occurrence, 8 associated with AF recurrence after RFA and 6 studies evaluating the risk trend of AF-related prognosis with increased Tn levels.RESULTSCompared with 'no incident AF occurrence' patients, the incident AF occurrence group had similar baseline troponin I (TnI) levels (standardized mean differences [SMD] = 0.42, 95% CI: -0.02-0.86, p = 0.06; I2 = 87.0%, N = 6), but higher troponin T (TnT) levels (SMD = 3.77, 2.13-5.42, p <0.001; I2=99.7%, N = 8). AF recurrence patients had similar peri-ablation TnI levels, but higher peri-ablation TnT levels compared to the 'no AF recurrence' group with pooled SMD. (TnI: SMD: -0.61, -1.22to 0, p = 0.049; I2 = 87.1%; TnT: 0.38, 0.14-0.62, p = 0.002; I2 = 64.7%). On meta-regression, there was an increased risk trend for stroke/systemic embolism (SE) (r2 = 0.93, p = 0.04) or major bleeding (r2 = 0.99, p < .0001) with the increasing TnT levels. Mortality was not significantly related to TnI (r2 = 0.09, p = 0.25) or TnT (r2 = 0.20, p = 0.31), and stroke/SE (r2 = 0.02, p = 0.74) or major bleeding (r2 = 0.002, p = 0.92) was non-significantly related to increasing TnI levels.CONCLUSIONSIn our systematic review, meta-analysis and meta-regression, TnT was associated with both incident AF occurrence and AF recurrence after RFA, as well as stroke/SE and major bleeding. In contrast, TnI was not associated with incident AF occurrence, AF recurrence after RFA or prognosis (stroke/SE, major bleeding).

Database: Medline

28. Efficacy and Safety Outcomes of Direct Oral Anticoagulants and Amiodarone in Patients with Atrial Fibrillation.

Author(s): Lupercio, Florentino; Romero, Jorge; Peltzer, Bradley; Maraboto, Carola; Briceno, David; Villablanca, Pedro; Ferrick, Kevin; Gross, Jay N; Kim, Soo; Fisher, John; Di Biase, Luigi; Krumerman, Andrew

Source: The American journal of medicine; May 2018; vol. 131 (no. 5); p. 573

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29274758

Abstract:BACKGROUNDDirect oral anticoagulants (DOACs) and amiodarone are widely used in the treatment of nonvalvular atrial fibrillation. The DOACs are P-glycoprotein (P-gp) and cytochrome p-450 (CYP3A4) substrates. Direct oral anticoagulant levels may be increased by the concomitant use of potent dual P-gp/CYP3A4 inhibitors, such as amiodarone, which can potentially translate into adverse clinical outcomes. We aimed to assess the efficacy and safety of drug-drug interaction by the concomitant use of DOACs and amiodarone.METHODSWe performed a systematic review of MEDLINE, the Cochrane Central Register of Clinical Trials, and Embase, limiting our search to randomized controlled trials of patients with atrial fibrillation that have compared DOACs versus warfarin for prophylaxis of stroke or systemic embolism, to analyze the impact on stroke or systemic embolism, major bleeding, and intracranial bleeding risk in patients with concomitant use of amiodarone. Risk ratio (RR) 95% confidence intervals were measured using the Mantel-Haenszel method. The fixed effects model was used owing to heterogeneity (I2) < 25%.RESULTSFour trials with a total of 71,683 patients were analyzed, from which 5% of patients (n = 3212) were concomitantly taking DOAC and amiodarone. We found no statistically significant difference for any of the clinical outcomes (stroke or systemic embolism [RR 0.85; 95% CI, 0.67-1.06], major bleeding [RR 0.91; 95% CI, 0.77-1.07], or intracranial bleeding [RR 1.10; 95% CI, 0.68-1.78]) among patients taking DOAC and amiodarone versus DOAC without amiodarone.CONCLUSIONOn the basis of the results of this meta-analysis, co-administration of DOACs and amiodarone, a dual P-gp/CYP3A4 inhibitor, does not seem to affect efficacy or safety outcomes in patients with atrial fibrillation.

Database: Medline

29. Lifestyle Therapy for the Management of Atrial Fibrillation.

Author(s): Abdul-Aziz, Ahmad A; Altawil, Mahmoud; Lyon, Amanda; MacEachern, Mark; Richardson, Caroline R; Rubenfire, Melvyn; Pelosi, Frank; Jackson, Elizabeth A

Source: The American journal of cardiology; May 2018; vol. 121 (no. 9); p. 1112-1117

Publication Date: May 2018

Publication Type(s): Journal Article Review

PubMedID: 29650239

Abstract: Atrial fibrillation (AF) is a common arrhythmia associated with increased risk of morbidity and mortality. There is evidence that lifestyle interventions may serve as complementary treatments to reduce AF burden. The objective of this review was to summarize the efficacy of lifestyle interventions for the management of AF. Studies which included patients with systolic heart failure (ejection fraction ≤40%), and those limited to an examination of vigorous physical activity were excluded from our search. Studies were identified through a search of the following databases: MEDLINE, EMBASE, CINAHIL, and PubMed, run from inception through August 2016. All studies were graded for quality using the Oxford Centre for Evidence-based Medicine recommendations. Meta-analyses of the studies were not performed due to the heterogeneity of the studies. From a total of 1,811 publications, 10 articles were identified and included. Selected publications included 1 study on yoga, 2 studies on acupuncture, 3 studies that examined weight loss programs, and 4 studies that evaluated the impact of moderate physical activity. Yoga was associated with less symptomatic AF episodes and improved quality of life. Acupuncture was associated with reduced AF occurrence in patients with persistent and paroxysmal AF. Weight loss was associated with a significant reduction AF burden and symptoms. Moderate exercise resulted in greater arrhythmia free survival and a mean reduction in AF burden. In conclusion, evidence exists to suggest that yoga, weight loss, and moderate exercise are associated with reductions in AF burden and symptoms. Evidence is greatest for weight loss and moderate exercise.

Database: Medline

30. Direct oral anti-coagulants compared to vitamin-K antagonists in cardioversion of atrial fibrillation: an updated meta-analysis.

Author(s): Brunetti, Natale Daniele; Tarantino, Nicola; De Gennaro, Luisa; Correale, Michele; Santoro, Francesco; Di Biase, Matteo

Source: Journal of thrombosis and thrombolysis; May 2018; vol. 45 (no. 4); p. 550-556

Publication Date: May 2018

Publication Type(s): Journal Article Review

PubMedID: 29404874

Abstract: Pharmacological or electrical cardioversion allows immediate symptoms improvement in the setting of paroxysmal or persistent atrial fibrillation (AF), although the periprocedural risk of systemic embolism should be considered. Recently, there was a great interest on the safety and efficacy of direct oral anticoagulants (DOACs) when used for the cardioversion of non-valvular AF. We performed a random-effects meta-analysis of patients undergoing both electrical and pharmacologic cardioversion for non-valvular AF in the RE-LY, ROCKET-AF, ARISTOTLE, ENGAGE AF-TIMI 48, X-VeRT, ENSURE-AF, and EMANATE trials. We assessed Mantel-Haenszel pooled estimates of risk ratios (RRs) and 95% confidence intervals (CIs) for stroke/systemic embolism (SSE) and major bleeding (MB) at follow-up. A total of 8564 patients have been included in the analysis. When compared with patients receiving vitamin-K antagonists (VKAs), patients receiving DOACs had a lower risk of SSE (RR 0.70, 95% CI 0.33-1.546, P = 0.34), as well as of MB (RR 0.86;,95% CI 0.47-1.58, P = 0.62), although both were non-significant. Funnel plot analysis showed, however, lower RRs with more recent ad hoc studies in comparison with registrational studies, even though statistical significance was not reached. DOACs are as effective and as safe as VKAs for thromboembolic prevention in non-valvular AF in the setting of cardioversion. There are differences, although non-significant, between registrational studies and studies enrolling exclusively patients undergoing cardioversion of AF.

Database: Medline

31. The mental health of adolescents and pre-adolescents living with inherited arrhythmia syndromes: a systematic review of the literature.

Author(s): Longmuir, Patricia E; Sampson, Margaret; Ham, Jennifer; Weekes, Makenzie; Patel, Bhavika J; Gow, Robert M

Source: Cardiology in the young; May 2018; vol. 28 (no. 5); p. 621-631

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29345602

Abstract: Potentially fatal arrhythmias add to the mental health challenges of adolescence. This systematic review sought to summarise current knowledge regarding the mental health of adolescents and pre-adolescents diagnosed with inherited arrhythmia syndromes. Searches combining psychological problems with inherited cardiac arrhythmia diagnoses identified 16 studies with paediatric (<18 years) inherited arrhythmia patients. All studies were cross-sectional; 8/16 required an implantable cardioverter defibrillator. Methods were quantitative (n=11), qualitative (n=4), or mixed (n=1), with 14-100% of participants having an inherited arrhythmia syndrome. Mean/median age in 13/16 studies was 12-16 years. Patients and parents reported lower quality of life, particularly in relation to physical function, social relationships, restriction of peer activities, bodily pain, and mental and emotional health. Self-perceptions and behaviour were similar to healthy populations. Rates of anxiety and depression (15-33% of these patients) were not increased in these studies where patients were assessed 2+ years after diagnosis. Higher mental health risk occurred among patients who have a diagnosed sibling, those with cardiomyopathy, and those who report decreased quality of life. Mental health research among youth with inherited arrhythmias is extremely limited and of low quality. Data, primarily from patients 2-4 years after diagnosis or treatment with an implantable cardioverter defibrillator, indicate that quality of life may be decreased and 15-33% experience mental health issues. Future research is required to examine the mental health and quality of life of paediatric patients with inherited arrhythmia syndromes, whether or not they have an implantable cardioverter defibrillator, from time of diagnosis.

Database: Medline

32. Adenosine Testing After Atrial Fibrillation Ablation: Systematic Review and Meta-Analysis

Author(s): Wang N.; Phan S.; Kanagaratnam A.; Phan K.; Kumar N.

Source: Heart Lung and Circulation; May 2018; vol. 27 (no. 5); p. 601-610

Publication Date: May 2018

Publication Type(s): Article

Abstract: Background: Adenosine can be used to reveal dormant pulmonary vein (PV) conduction after pulmonary vein isolation (PVI) for the treatment of atrial fibrillation (AF). We performed a systematic review and meta-analysis to assess the impact of adenosine administration in patients undergoing PVI for AF. Methods: Meta-analysis of 22 studies was performed to assess the rates of freedom from AF in 1) patients with dormant PV conduction versus patients without dormant PV conduction, and 2) patients given routine adenosine post PVI versus patients not given adenosine. Relative-risks (RR) were calculated using random effects modelling. Results: In 18 studies, 3038 patients received adenosine and freedom from AF in those patients with dormant PV reconnection was significantly lower (62.9%) compared to patients without PV reconnection (67.2%) (RR 0.87; 95% CI: 0.78-0.98). In seven studies with 3049 patients, the freedom from AF was significantly higher in patients who received adenosine (67%) versus those patients who did not receive adenosine (63%) (RR: 1.11; 95% CI: 1.01-1.22). Conclusions: The present study showed clear benefits of adenosine testing for freedom from AF recurrence. Adenosine-guided dormant conduction is associated with higher AF recurrence despite further ablation. Future studies should investigate the optimal methodology, including dosage and waiting time between PVI and adenosine administration.Copyright © 2017 Australian and New Zealand Society of Cardiac and Thoracic Surgeons (ANZSCTS) and the Cardiac Society of Australia and New Zealand (CSANZ)

Database: EMBASE

33. Treatment Strategies for Atrial Fibrillation With Left Ventricular Systolic Dysfunction - Meta-Analysis.

Author(s): Ahn, Jinhee; Kim, Hyun Jung; Choe, Jeong Cheon; Park, Jin Sup; Lee, Hye Won; Oh, Jun-Hyok; Choi, Jung Hyun; Lee, Han Cheol; Cha, Kwang Soo; Hong, Taek Jong; Kim, Young-Hoon

Source: Circulation journal : official journal of the Japanese Circulation Society; Apr 2018

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29709893

Abstract:BACKGROUNDAtrial fibrillation (AF) frequently coexists with heart failure (HF) with reduced ejection fraction (EF). This meta-analysis compared AF control strategies, that is, rhythm vs. rate, and catheter ablation (CA) vs. anti-arrhythmic drugs (AAD) in patients with AF combined with HF.Methods and Results:The MEDLINE, EMBASE, and CENTRAL databases were searched, and 13 articles from 11 randomized controlled trials with 5,256 patients were included in this meta-analysis. The outcomes were echocardiographic parameters (left ventricular EF, LVEF), left atrial (LA) size, and left ventricular end-systolic volume, LVESV), clinical outcomes (mortality, hospitalization, and thromboembolism), exercise capacity, and quality of life (QOL). In a random effects model, rhythm control was associated with higher LVEF, better exercise capacity, and better QOL than the rate control. When the 2 different rhythm control strategies were compared (CA vs. AAD), the CA group had significantly decreased LA size and LVESV, and improved LVEF and 6-min walk distance, but mortality, hospitalization, and thromboembolism rates were not different between the rhythm and rate control groups.CONCLUSIONSIn AF combined with HF, even though mortality, hospitalization and thromboembolism rates were similar, a rhythm control strategy was superior to rate control in terms of improvement in LVEF, exercise capacity, and QOL. In particular, the CA group was superior to the AAD group for reversal of cardiac remodeling.

Database: Medline

34. Appropriate doses of non-vitamin K antagonist oral anticoagulants in high-risk subgroups with atrial fibrillation: Systematic review and meta-analysis.

Author(s): Kim, In-Soo; Kim, Hyun-Jung; Kim, Tae-Hoon; Uhm, Jae-Sun; Joung, Boyoung; Lee, Moon-Hyoung; Pak, Hui-Nam

Source: Journal of cardiology; Apr 2018

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29706404

Abstract:BACKGROUNDWe evaluated the dose-dependent efficacy, safety, and all-cause mortality of non-vitamin K antagonist oral anticoagulants (NOACs) in "atrial fibrillation (AF) patients who were OAC-naïve," or "AF patients with prior-stroke history" with those who were known to be high-risk subgroups under OAC.METHODSAfter a systematic database search (Medline, EMBASE, CENTRAL, SCOPUS, and Web of Science), five phase-III randomized trials comparing NOACs and warfarin in "OAC-naïve/OAC-experienced,"

or "with/without prior-stroke history" subgroups were included. The outcomes were pooled using a random-effects model to determine the relative risk (RR) for stroke/systemic thromboembolism (SSTE), major bleeding, intracranial hemorrhage, and all-cause mortality.RESULTS1. In OAC-naïve patients, standard-dose NOACs showed superior efficacy and safety with lower mortality [RR 0.90 (0.84-0.97), p=0.008, I2=0%] compared to warfarin. 2. For OAC-experienced patients, low-dose NOACs showed equivalent efficacy but reduced risk of major bleeding [RR 0.61 (0.40-0.91), p=0.02, I2=89%], and had lower all-cause mortality [RR 0.86 (0.75-0.99), p=0.04, I2=38%] compared to warfarin. 3. For patients with prior-stroke history, low-dose NOACs showed equivalent efficacy, but reduced risk of major bleeding [RR 0.58 (0.48-0.70), p<0.001, I2=0%] and all-cause mortality [RR 0.76 (0.66-0.88), p<0.001, I2=0%] compared to warfarin. 4. Among patients without prior-stroke history, standard-dose NOAC was superior to warfarin for both SSTE prevention [RR 0.78 (0.66-0.91), p=0.002, I2=43%] and all-cause mortality [RR 0.91 (0.85-0.97), p=0.004, I2=0%].CONCLUSIONSIn conclusion, standard-dose NOAC showed lower all-cause mortality than warfarin in OAC-naïve patients with AF, and low-dose NOAC was better than warfarin among the patients with prior-stroke history in terms of all-cause mortality.

Database: Medline

35. Increased risk of ischemic stroke associated with new-onset atrial fibrillation complicating acute coronary syndrome: A systematic review and meta-analysis.

Author(s): Luo, Jiachen; Li, Hongqiang; Qin, Xiaoming; Liu, Baoxin; Zhao, Jinlong; Maihe, Guli; Li, Zhiqiang; Wei, Yidong

Source: International journal of cardiology; Apr 2018

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29706432

Abstract:BACKGROUNDAtrial fibrillation has been established as a major risk factor of ischemic stroke, however, the influence of new-onset atrial fibrillation (NOAF) complicating acute coronary syndrome (ACS) on ischemic stroke remains controversial. This meta-analysis aimed to validate the association between NOAF complicating ACS and ischemic stroke.METHODSWe identified randomized controlled trials and cohort studies comparing the ischemic stroke risk between patients with NOAF and sinus rhythm after ACS by searching MEDLINE, EMBASE and Cochrane Central Register of Controlled Trials databases. We included studies reporting the number of ischemic stroke events or their risk estimates at the longest follow-up. We pooled risk ratios (RRs) using a random-effects model. This meta-analysis is registered in PROSPERO (CRD42017079858).RESULTSIn the 14 included studies (n = 292,774, 5 randomized controlled trials and 9 cohort studies), NOAF was associated with an increased risk of ischemic stroke (RR: 2.84, 95% confidence interval [CI]: 1.91-4.23; 6 studies), especially for patients with ST-segment elevation myocardial infarction (RR: 4.01, 95% CI: 2.61-6.18; 3 studies). In addition, the detrimental impact persisted in patients with transient NOAF (RR: 3.05, 95% CI: 1.63-5.70; 3 studies). The pooled result from a sensitivity analysis in which all individual components in the CHA2DS2-VASc score (heart failure, hypertension, age, diabetes, previous stroke, vascular disease and female sex) had been adjusted further validated the association between NOAF and ischemic stroke (RR: 2.32, 95% CI: 1.53-3.52; 4 studies).CONCLUSIONSNOAF is significantly associated with ischemic stroke events in patients with ACS, even after adjustment for several important ischemic stroke risk factors.

Database: Medline

36. Subclinical device-detected atrial fibrillation and stroke risk: a systematic review and meta-analysis.

Author(s): Mahajan, Rajiv; Perera, Tharani; Elliott, Adrian D; Twomey, Darragh J; Kumar, Sharath; Munwar, Dian A; Khokhar, Kashif B; Thiyagarajah, Anand; Middeldorp, Melissa E; Nalliah, Chrishan J; Hendriks, Jeroen M L; Kalman, Jonathan M; Lau, Dennis H; Sanders, Prashanthan

Source: European heart journal; Apr 2018; vol. 39 (no. 16); p. 1407-1415

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29340587

Abstract: AimsTo determine stroke risk in subclinical atrial fibrillation (AF) and temporal association between subclinical AF and stroke.Methods and resultsPubmed/Embase was searched for studies reporting stroke in subclinical AF in patients with cardiac implantable electronic devices (CIEDs). After exclusions, 11 studies

were analysed. Of these seven studies reported prevalence of subclinical AF, two studies reported association between subclinical and clinical AF, seven studies reported stroke risk in subclinical AF, and five studies reported temporal relationship between subclinical AF and stroke. Subclinical AF was noted after CIEDs implant in 35% [interquartile range (IQR) 34-42] of unselected patients with pacing indication over 1-2.5 years. The definition and cut-off duration (for stroke risk) of subclinical AF varied across studies. Subclinical AF was strongly associated with clinical AF (OR 5.7, 95% CI 4.0-8.0, P defined cut-off duration was 1.89/100 person-year (95% CI 1.02-3.52) with 2.4-fold (95% CI 1.8-3.3, P < 0.001, I2 = 0%) increased risk of stroke as compared to patients with subclinical AF < cut-off duration (absolute risk was 0.93/100 person-year). Three studies provided mean CHADS2 score. In these studies, with mean CHADS2 score of 2.1 ± 0.1, subclinical AF was associated with annual stroke rate of 2.76/100 person-years (95% CI 1.46-5.23). After excluding patients without AF, only 17% strokes occurred in presence of ongoing AF. Subclinical AF was noted in 29% [IQR 8-57] within 30 days preceding stroke.ConclusionSubclinical AF strongly predicts clinical AF and is associated with elevated absolute stroke risk albeit lower than risk described for clinical AF.

Database: Medline

37. Telemonitoring-based feedback improves adherence to non-vitamin K antagonist oral anticoagulants intake in patients with atrial fibrillation.

Author(s): Desteghe, Lien; Vijgen, Johan; Koopman, Pieter; Dilling-Boer, Dagmara; Schurmans, Joris; Dendale, Paul; Heidbuchel, Hein

Source: European heart journal; Apr 2018; vol. 39 (no. 16); p. 1394-1403

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29300888

Abstract: AimsTo evaluate the effect of telemonitoring on adherence to non-vitamin K antagonist oral anticoagulants (NOACs) in atrial fibrillation (AF) patients.Methods and resultsA randomized, single-blind, crossover, controlled trial in 48 AF patients on once or twice daily (OD or BID) NOAC. The Medication Event Monitoring System tracked NOAC intake during three phases of 3 months each: daily telemonitoring, telemonitoring with immediate telephone feedback in case of intake errors, and an observation phase without daily transmissions. Unprotected days were defined as ≥ 3 or ≥ 1 consecutively missed doses for a BID or OD NOAC, respectively, or excess dose intake. Cost-effectiveness was calculated based on anticipated stroke reduction derived from patients' risk profile and measured intake. Persistence over the entire study was 98%. Telemonitoring-only already led to very high taking and regimen adherence (97.4% respectively 93.8%). Nevertheless, direct feedback further improved both to 99.0% and 96.8%, respectively (P < 0.001 respectively P = 0.002). Observation without daily monitoring resulted in a significant waning of taking adherence (94.3%; P = 0.049). Taking adherence was significantly higher for OD compared to BID NOAC, although unprotected days were similar. Feedback intervention had an incremental cost of €344 289 to prevent one stroke, but this could be as low as €15 488 in high-risk patients with low adherence and optimized technology.ConclusionTelemonitoring resulted in high NOAC adherence due to the notion of being watched, as evidenced by the rapid decline during the observation period. Feedback further optimized adherence. Telemonitoring with or without feedback may be a cost-effective approach in high-risk patients deemed poorly adherent.

Database: Medline

38. Amaze: a randomized controlled trial of adjunct surgery for atrial fibrillation.

Author(s): Nashef, Samer A M; Fynn, Simon; Abu-Omar, Yasir; Spyt, Tomasz J; Mills, Christine; Everett, Colin C; Fox-Rushby, Julia; Singh, Jeshika; Dalrymple-Hay, Malcolm; Sudarshan, Catherine; Codispoti, Massimiliano; Braidley, Peter; Wells, Francis C; Sharples, Linda D

Source: European journal of cardio-thoracic surgery : official journal of the European Association for Cardio-thoracic Surgery; Apr 2018

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29672731

Abstract:OBJECTIVESAtrial fibrillation (AF) reduces survival and quality of life (QoL). It can be treated at the time of major cardiac surgery using ablation procedures ranging from simple pulmonary vein isolation to a full maze procedure. The aim of this study is to evaluate the impact of adjunct AF surgery as currently

performed on sinus rhythm (SR) restoration, survival, QoL and cost-effectiveness.METHODSIn a multicentre, Phase III, pragmatic, double-blinded, parallel-armed randomized controlled trial, 352 cardiac surgery patients with >3 months of documented AF were randomized to surgery with or without adjunct maze or similar AF ablation between 2009 and 2014. Primary outcomes were SR restoration at 1 year and quality-adjusted life years at 2 years. Secondary outcomes included SR at 2 years, overall and stroke-free survival, medication, QoL, cost-effectiveness and safety.RESULTSMore ablation patients were in SR at 1 year [odds ratio (OR) 2.06, 95% confidence interval (CI) 1.20-3.54; P = 0.009]. At 2 years, the OR increased to 3.24 (95% CI 1.76-5.96). Quality-adjusted life years were similar at 2 years (ablation - control -0.025, P = 0.6319). Significantly fewer ablation patients were anticoagulated from 6 months postoperatively. Stroke rates were 5.7% (ablation) and 9.1% (control) (P = 0.3083). There was no significant difference in stroke-free survival [hazard ratio (HR) = 0.99, 95% CI 0.64-1.53; P = 0.949] nor in serious adverse events, operative or overall survival, cardioversion, pacemaker implantation, New York Heart Association, EQ-5D-3L and SF-36. The mean additional ablation cost per patient was £3533 (95% CI £1321-£5746). Cost-effectiveness was not demonstrated at 2 years.CONCLUSIONSAdjunct AF surgery is safe and increases SR restoration and costs but not survival or QoL up to 2 years. A continued follow-up will provide information on these outcomes in the longer term.Study registrationISRCTN82731440 (project number 07/01/34).

Database: Medline

39. Safety and efficacy of dual vs. triple antithrombotic therapy in patients with atrial fibrillation following percutaneous coronary intervention: a systematic review and meta-analysis of randomized clinical trials.

Author(s): Golwala, Harsh B; Cannon, Christopher P; Steg, Ph Gabriel; Doros, Gheorghe; Qamar, Arman; Ellis, Stephen G; Oldgren, Jonas; Ten Berg, Jurrien M; Kimura, Takeshi; Hohnloser, Stefan H; Lip, Gregory Y H; Bhatt, Deepak L

Source: European heart journal; Apr 2018

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29668889

Abstract: AimsOf patients with atrial fibrillation (AF), approximately 10% undergo percutaneous coronary intervention (PCI). We studied the safety and efficacy of dual vs. triple antithrombotic therapy (DAT vs. TAT) in this population.Methods and resultsA systematic review and meta-analysis was conducted using PubMed, Embase, EBSCO, Cochrane database of systematic reviews, Web of Science, and relevant meeting abstracts for Phase 3, randomized trials that compared DAT vs. TAT in patients with AF following PCI. Four trials including 5317 patients were included, of whom 3039 (57%) received DAT. Compared with the TAT arm, Thrombolysis in Myocardial Infarction (TIMI) major or minor bleeding showed a reduction by 47% in the DAT arm [4.3% vs. 9.0%; hazard ratio (HR) 0.53, 95% credible interval (CrI) 0.36-0.85, I2 = 42.9%]. In addition, there was no difference in the trial-defined major adverse cardiac events (MACE) (10.4% vs. 10.0%, HR 0.85, 95% CrI 0.48-1.29, I2 = 58.4%), or in individual outcomes of all-cause mortality, cardiac death, myocardial infarction, stent thrombosis, or stroke between the two arms.ConclusionCompared with TAT, DAT shows a reduction in TIMI major or minor bleeding by 47% with comparable outcomes of MACE. Our findings support the concept that DAT may be a better option than TAT in many patients with AF following PCI.

Database: Medline

40. Cardiac telocytes. From basic science to cardiac diseases. I. Atrial fibrillation.

Author(s): Hostiuc, Sorin; Negoi, Ionuț; Dogaroiu, Catalin; Drima, Eduard; Iancu, Cristian Bogdan

Source: Annals of anatomy = Anatomischer Anzeiger : official organ of the Anatomische Gesellschaft; Apr 2018; vol. 218 ; p. 83-87

Publication Date: Apr 2018

Publication Type(s): Journal Article Review

PubMedID: 29655845

Abstract:INTRODUCTIONAtrial fibrillation (AF) is nowadays considered to be one of the most important causes of heart failure, stroke, cognitive decline, vascular dementia, sudden death and overall cardiovascular morbidity. Recently were published a few articles suggesting a possible involvement of telocytes in the development of atrial fibrillation. The purpose of this article is to analyze the results obtained in the field systematically, and to see if there is enough data to support a possible involvement of telocytes in

arrhythmogenesis.MATERIALS AND METHODSTo this end, we performed a systematic review of the relevant scientific literature, indexed in PubMed, Web of Science, and Scopus.RESULTS AND DISCUSSIONSOur systematic review of the published data identified five articles containing original data, based on which the association between telocytes and atrial fibrillation was inferred in later studies. We analyzed the usefulness of the information contained in the original articles to support this association, showing a lack of definite proofs correlating telocytes with atrial fibrillation.CONCLUSIONSEven if a few articles implied a potential association between AF and telocytes, the current data is not enough to support it. Moreover, even an association between the morphology, characteristics, or density of the telocytes in the atrium/pulmonary veins and AF is potentially speculative, and more studies should be performed before implying it with a reasonable degree of certainty.

Database: Medline

41. Gender Differences in Efficacy and Safety of Direct Oral Anticoagulants in Atrial Fibrillation: Systematic Review and Network Meta-analysis.

Author(s): Raccah, Bruria Hirsh; Perlman, Amichai; Zwas, Donna R; Hochberg-Klein, Sarit; Masarwa, Reem; Muszkat, Mordechai; Matok, Ilan

Source: The Annals of pharmacotherapy; Apr 2018 ; p. 1060028018771264

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29681165

Abstract:BACKGROUNDStudies indicate that women with atrial fibrillation (AF) are less likely to receive anticoagulants despite their higher risk of stroke compared with men.OBJECTIVETo evaluate whether the efficacy and safety of direct oral anticoagulants (DOACs) differ in women with AF as compared with men. Our secondary aim was to examine gender differences regarding the safety and efficacy of specific DOACs.DATA SOURCESMEDLINE, EMBASE, Cochrane, and ClinicalTrials.gov were searched through March 2017.STUDY SELECTION AND DATA EXTRACTIONRandomized clinical trials that reported on major bleeding and stroke with DOACs in women and men with AF were included. Meta-analysis and network meta-analysis was performed.DATA SYNTHESISFive trials met the inclusion criteria. Among 66 389 patients, 37.8% were women. Women treated with DOACs were at higher risk of stroke and systemic embolism compared with men (RR = 1.19; 95% CI = 1.04-1.35; I2 = 10%) but there was a significantly lower risk of major bleeding in women compared with men (RR = 0.86; 95% CI = 0.78-0.94; I2 = 0%). Network meta-analyses suggested differences between various DOACs in men and women.LIMITATIONSPatient-level data enabling control for differences in baseline risk and head-to-head comparisons between DOACs were not available. Relevance to Patient Care and Clinical Practice: Undertreatment with DOACs among women cannot be justified.CONCLUSIONWomen treated with DOACs had a lower rate of major bleeding and higher rate of stroke and systemic emboli compared with men. Further investigation of DOACs, including differences between the DOACs in specific populations is warranted.

Database: Medline

42. Amaze: a double-blind, multicentre randomised controlled trial to investigate the clinical effectiveness and cost-effectiveness of adding an ablation device-based maze procedure as an adjunct to routine cardiac surgery for patients with pre-existing atrial fibrillation.

Author(s): Sharples, Linda; Everett, Colin; Singh, Jeshika; Mills, Christine; Spyt, Tom; Abu-Omar, Yasir; Fynn, Simon; Thorpe, Benjamin; Stoneman, Victoria; Goddard, Hester; Fox-Rushby, Julia; Nashef, Samer

Source: Health technology assessment (Winchester, England); Apr 2018; vol. 22 (no. 19); p. 1-132

Publication Date: Apr 2018

Publication Type(s): Clinical Trial

PubMedID: 29701167

Abstract:BACKGROUNDAtrial fibrillation (AF) can be treated using a maze procedure during planned cardiac surgery, but the effect on clinical patient outcomes, and the cost-effectiveness compared with surgery alone, are uncertain.OBJECTIVESTo determine whether or not the maze procedure is safe, improves clinical and patient outcomes and is cost-effective for the NHS in patients with AF.DESIGNMulticentre, Phase III, pragmatic, double-blind, parallel-arm randomised controlled trial. Patients were randomised on a 1 : 1 basis using random permuted blocks, stratified for surgeon and planned procedure.SETTINGEleven acute NHS specialist cardiac surgical centres.PARTICIPANTSPatients aged ≥ 18 years, scheduled for elective or in-house urgent cardiac

surgery, with a documented history (> 3 months) of AF.INTERVENTIONSRoutine cardiac surgery with or without an adjunct maze procedure administered by an AF ablation device.MAIN OUTCOME MEASURESThe primary outcomes were return to sinus rhythm (SR) at 12 months and quality-adjusted life-years (QALYs) over 2 years after randomisation. Secondary outcomes included return to SR at 2 years, overall and stroke-free survival, drug use, quality of life (QoL), cost-effectiveness and safety.RESULTSBetween 25 February 2009 and 6 March 2014, 352 patients were randomised to the control (n = 176) or experimental (n = 176) arms. The odds ratio (OR) for return to SR at 12 months was 2.06 [95% confidence interval (CI) 1.20 to 3.54; p = 0.0091]. The mean difference (95% CI) in QALYs at 2 years between the two trial arms (maze/control) was -0.025 (95% CI 0.129 to 0.078; p = 0.6319). The OR for SR at 2 years was 3.24 (95% CI 1.76 to 5.96). The number of patients requiring anticoagulant drug use was significantly lower in the maze arm from 6 months after the procedure. There were no significant differences between the two arms in operative or overall survival, stroke-free survival, need for cardioversion or permanent pacemaker implants, New York Heart Association Functional Classification (for heart failure), EuroQol-5 Dimensions, three-level version score and Short Form questionnaire-36 items score at any time point. Sixty per cent of patients in each trial arm had a serious adverse event (p = 1.000); most events were mild, but 71 patients (42.5%) in the maze arm and 84 patients (45.5%) in the control arm had moderately severe events; 31 patients (18.6%) in the maze arm and 38 patients (20.5%) in the control arm had severe events. The mean additional cost of the maze procedure was £3533 (95% CI £1321 to £5746); the mean difference in QALYs was -0.022 (95% CI -0.1231 to 0.0791). The maze procedure was not cost-effective at £30,000 per QALY over 2 years in any analysis. In a small substudy, the active left atrial ejection fraction was smaller than that of the control patients (mean difference of -8.03, 95% CI -12.43 to -3.62), but within the predefined clinically equivalent range.LIMITATIONSLow recruitment, early release of trial summaries and intermittent resource-use collection may have introduced bias and imprecise estimates.CONCLUSIONSAblation can be practised safely in routine NHS cardiac surgical settings and increases return to SR rates, but not survival or QoL up to 2 years after surgery. Lower anticoagulant drug use and recovery of left atrial function support anticoagulant drug withdrawal provided that good atrial function is confirmed.FURTHER WORKContinued follow-up and long-term clinical effectiveness and cost-effectiveness analysis. Comparison of ablation methods.TRIAL REGISTRATIONCurrent Controlled Trials ISRCTN82731440.FUNDINGThis project was funded by the NIHR Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 22, No. 19. See the NIHR Journals Library website for further project information.

Database: Medline

43. Impact of body mass index on mortality and hospitalisation of patients with atrial fibrillation.

Author(s): Ball, Jocasta; Løchen, Maja-Lisa; Carrington, Melinda J; Wiley, Joshua F; Stewart, Simon

Source: European journal of cardiovascular nursing : journal of the Working Group on Cardiovascular Nursing of the European Society of Cardiology; Apr 2018 ; p. 1474515118772446

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29664325

Abstract:BACKGROUNDAtrial fibrillation represents a substantial clinical and public health issue. The definitive impact of body mass index on prognosis of patients with chronic (persistent or permanent) atrial fibrillation remains undetermined.AIMThe purpose of this study was to investigate the association of body mass index with health outcomes (mortality and re-hospitalisation) of patients with chronic atrial fibrillation.METHODSUsing data from the Standard versus Atrial Fibrillation spEcific managemenT strategY (SAFETY) trial (a randomised controlled trial of home-based, atrial fibrillation-specific disease management), we performed post-hoc analyses of mortality and re-hospitalisation outcomes during minimum 24-month follow-up according to baseline body mass index profile.RESULTSOf 297 participants (mean age 71±11 years, 47% female, mean body mass index 29.6±6.7 kg/m2), 35.0% of participants were overweight (body mass index 25.0-29.9 kg/m2) and 43.1% were obese (body mass index≥30 kg/m2). During follow-up, n=42 died including 16/65 (24.6%) classified as normal body mass index, 16/104 (15.4%) classified as overweight and 10/128 (7.8%) classified as obese. Increasing body mass index was not associated with increased mortality but was associated with re-hospitalisation due to cardiovascular disease with greater length-of-stay (odds ratio 1.05; 95% confidence interval 1.00-1.09, p=0.032). Obese individuals experienced increased unplanned admissions compared to overweight individuals (incidence rate ratio 0.71; 95% confidence interval 0.53-0.96, p=0.028), and increased cardiovascular-related (incidence rate ratio 0.58; 95% confidence interval 0.39-0.86, p=0.007) and all-cause admissions (incidence rate ratio 0.63; 95% confidence interval 0.45-0.89, p=0.008) compared to those classified as normal body mass index.CONCLUSIONOverweight and obesity were not associated with survival

in patients with chronic atrial fibrillation but were associated with more frequent hospital care and prolonged stay.

Database: Medline

44. Cost-effectiveness of colchicine treatment on post-operative atrial fibrillation events in patients of major cardiac surgery.

Author(s): Barman, Manish; Tantawy, Mahmoud; Sopher, Mark; Lennerz, Carsten

Source: European heart journal. Quality of care & clinical outcomes; Apr 2018; vol. 4 (no. 2); p. 126-131

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29121194

Abstract: AimsPost-operative atrial fibrillation (POAF) occurs in 20-50% of patients amid post-operative stay after Cardiac Surgery. We intend to determine whether colchicine therapy in patients undergoing cardiac surgery is a cost-effective strategy for prevention of POAF. To undertake cost utility analysis and calculate incremental cost utility ratio (ICUR) for colchicine therapy in these subgroup of patients.Methods and results DesignDecision tree model to calculate the ICUR comparing two treatment strategies in patients undergoing cardiac surgery. One wherein patients received colchicine along with usual care and second where they received placebo or just usual care. Cost utility analysis was undertaken using relevant data from the systematic review and meta-analysis of the available randomized controlled trials till June 2016 and mean cost calculations from validated available sources across various jurisdictions.ResultsColchicine treatment based on mean costs for life expectancy calculated at 10 years' post-surgery using recommended discounting rates of 3.5% was € 17544.80 cheaper per quality-adjusted life-year (QALY) gained. The incremental cost is negative and the incremental effect (QALY) is positive (South East quadrant), Hence the intervention of colchicine treatment is unequivocally cost-effective, meaning it is dominant and achieves better outcomes at a lower cost.ConclusionOur findings provide a benchmark for current and future analyses relating to effectiveness of colchicine on POAF events after cardiac surgery. Currently, there are few reports that provide cutting edge estimates of the higher expenses associated with POAF. Future analyses should likewise explore the impact of added costs from using pharmacologic efforts to prevent and treat POAF after cardiac surgery.

Database: Medline

45. Non-vitamin K antagonist oral anticoagulants in patients with atrial fibrillation and valvular heart disease: systematic review and meta-analysis.

Author(s): Caldeira, Daniel; David, Cláudio; Costa, João; Ferreira, Joaquim J; Pinto, Fausto J

Source: European heart journal. Cardiovascular pharmacotherapy; Apr 2018; vol. 4 (no. 2); p. 111-118

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 28950374

Abstract: The non-vitamin K antagonist oral anticoagulants (NOACs) were approved for non-valvular atrial fibrillation (AF) but this term may be misnomer. Thus, the term non-mechanical and rheumatic mitral valvular (non-MARM) AF was proposed to exclude patients with valvular heart disease (VHD) without contraindications for NOACs. We aimed to review the efficacy and safety of NOACs in patients with AF and VHD compared to Vitamin K Antagonists (VKA). We performed a systematic review with meta-analysis (PROSPERO CRD42015024837) including data from randomized controlled trials (RCTs) retrieved in November 2016. The efficacy and safety data were pooled using random-effects meta-analyses using the hazard ratio (HR) with the 95% confidence interval (95%CI). Trial sequential analysis (TSA) was performed in statistical significant results to evaluate whether cumulative sample size was powered for the obtained effect. In 5 RCTs (with 12 653 VHD AF patients), NOACs significantly reduced the risk of stroke and systemic embolism (HR 0.73, 95%CI:0.60-0.90; TSA showed estimate was robust - O'Brien-Fleming α-spending boundary crossed before reaching the estimated information size) and intracranial hemorrhage (HR 0.45, 95%CI:0.24-0.87) compared with VKA. Major bleeding risk was not significantly different. In patients with bioprosthesis (3 trials-280 patients) the risks of thromboembolism (HR 0.65, 95%CI:0.20-2.08) and major bleeding (HR 0.94, 95%CI:0.28-3.18) with NOACs were similar to VKA. NOACs are efficacious and safe in patients with non-MARM VHD AF, showing significant reduction in the risk of stroke and systemic embolism and intracranial hemorrage compared with VKA. **Database:** Medline

46. A systematic review of the incidence of and risk factors for postoperative atrial fibrillation following general surgery.

Author(s): Chebbout, R; Heywood, E G; Drake, T M; Wild, J R L; Lee, J; Wilson, M; Lee, M J

Source: Anaesthesia; Apr 2018; vol. 73 (no. 4); p. 490-498

Publication Date: Apr 2018

Publication Type(s): Journal Article Review

PubMedID: 29105078

Abstract: Atrial fibrillation is a common cardiac arrhythmia and can occur de novo following a surgical procedure. It is associated with increased inpatient and long-term mortality. There is limited evidence concerning new-onset atrial fibrillation following abdominal surgery. This study aimed to identify the prevalence of and risk factors for postoperative atrial fibrillation in the general surgical population. A systematic search of the Embase, MEDLINE and Cochrane (CENTRAL) databases was conducted. Studies were included in the review if they reported cases of new-onset atrial fibrillation within 30 days of the index operation. Results were evaluated qualitatively due to substantial clinical heterogeneity. Incidence rates were pooled using a weighted random-effects meta-analysis model. A total of 835 records were initially identified, from which 32 full texts were retrieved. Following review, 13 studies were included that involved 52,959 patients, of whom 10.94% (95%CI 7.22-15.33) developed atrial fibrillation. Five studies of patients undergoing oesophagectomy (n = 376/1923) had a weighted average rate of 17.66% (95%CI 12.16-21.47), compared with 7.63% (95%CI 4.39-11.98) from eight studies of non-oesophageal surgery (n = 2927/51,036). Identified risk factors included: increasing age; history of cardiac disease; postoperative complications, particularly, sepsis, pneumonia and pleural effusions. New-onset postoperative atrial fibrillation is common, and is more frequent after surgery involving the thorax. Future work should focus on stratifying risk to allow targeted prophylaxis of atrial fibrillation and other peri-operative complications.

Database: Medline

47. Celiac disease and risk of atrial fibrillation: A systematic review and meta-analysis

Author(s): Boonpheng B.; Hidalgo D.; Ginn D.R.

Source: Journal of Investigative Medicine; Apr 2018; vol. 66 (no. 4); p. 797-798

Publication Date: Apr 2018

Publication Type(s): Conference Abstract

Abstract: Objective Several studies have found that celiac disease may be associated with a variety of cardiac manifestations. Atrial fibrillation is one of the most common arrhythmias that can cause significant morbidity. However, the risk of atrial fibrillation in patients with celiac disease according to epidemiologic (Figure presented) studies remains unclear. We performed this meta-analysis to assess the risk of atrial fibrillation in patients diagnosed with celiac disease compared to controls. Method A systematic review was conducted in MEDLINE, EMBASE, Cochrane databases from inception through December 2017 to identify studies that evaluated risk of atrial fibrillation in patients with celiac disease. Effect estimates from the individual study were extracted and combined using randomeffect, generic inverse variance method of DerSimonian and Laird. Results 4 observational studies with a total of 64,397 participants were enrolled. Compared with controls, celiac disease was associated with significantly increased risk of atrial fibrillation with a pooled OR of 1.38 (95% CI: 1.01 to 1.88). We found no publication bias as assessed by the funnel plots and Egger's regression asymmetry test with p= 0.54. However, the heterogeneity of the included studies was high. Conclusion Celiac disease is associated with 38% increased risk of atrial fibrillation compared to controls.

Database: EMBASE

48. Are patients with non-valvular atrial fibrillation involved in decision-making about oral anticoagulants? A literature review

Author(s): Medlinskiene K.; Pettya D.; Stirling K.; Richardson S.

Source: International Journal of Pharmacy Practice; Apr 2018; vol. 26 ; p. 42-43

Publication Date: Apr 2018

Publication Type(s): Conference Abstract

Abstract: Patients with non-valvular atrial fibrillation (AF) requiring oral anticoagulants (OAC) for stroke prevention currently have a choice of five OACs. A systematic review was undertaken to explore if patients with AF requiring an OAC for stroke prevention are involved in decision-making. A systematic search was conducted using MEDLINE, EMBASE, Web of Science, CINAHL, Cochrane Library, SCOPUS, and PsycINFO databases from inception to August 2017. Search terms were developed from search categories: "atrial fibrillation" AND "oral anticoagulant" AND "patient involvement". English language filter was applied. Studies retrieved, after removal of duplicates, were screened using the following inclusion criteria: (i) empiric studies reporting patient involvement in decision-making about OACs for stroke prevention in AF (ii) >18 years participants. Clinical guidelines, reviews, opinion and incomplete articles were excluded. The first reviewer screened titles and abstracts. To ensure concordance, a second reviewer independently checked a subset of 20% of abstracts. Once screened, reference checking and citation searches were performed. The full text of selected articles was assessed for inclusion by two reviewers independently and discussed to reach consensus. One reviewer conducted data extraction, quality appraisal using QATSDD evaluation tool [1] and analysis of eligible studies. Ethical approval was not required. The search yielded 5,894 unique titles. Screening of titles and abstracts resulted into 27 papers. The full text review excluded 19 papers. Reasons for exclusion were: review papers (n = 9), no findings on patient involvement in decision-making (n = 7), and clinical guidelines (n = 3). Two additional studies were included after reference and citations screening. Ten papers, seven qualitative and three quantitative studies, were retained for the literature review. Four studies were conducted in the UK, two in Canada and the remaining in Australia, USA, Denmark, and one across Europe. The methodological quality of studies was varied (score 13-29 out of 42, median 24.5). Four studies explored patient involvement when warfarin was the only OAC option and six when warfarin and direct oral anticoagulants (DOACs) were available. Views on patient involvement in decision-making from a patient's perspective were reported in six studies and from a prescriber's perspective in six studies. Patients' experiences indicated that paternalistic consultations were dominant when warfarin was the only available OAC. Patients reported high trust in doctors and expressed low confidence in making decisions themselves. They accepted physicians' dominance in the consultations even if an active role was preferred. Physicians' aimed to involve patients in decisions through negotiation. However, in order to make the "right" decision they fell back to the paternalistic approach or limited patient involvement. Patients continued to experience paternalistic consultations when warfarin and DOACs were available. Furthermore, quantitative findings have suggested that when more OAC options were available patients tended to be more involved in decisions. This systematic review suggests that decision-making is dominated by prescribers but providing patients with several therapy options can promote their involvement in decisions. Further planned work will explore if patient involvement in decision-making has influenced the uptake of DOACs, which has been slow in the UK.[2] .

Database: EMBASE

49. Atrial Fibrillation in Hypertension: Patients' Characteristics.

Author(s): Koutsaki, Styliani; Koutelekos, Ioannis; Gerogianni, Georgia; Koutsaki, Maria; Koukouzeli, Aggeliki; Fouka, Georgia; Polikandrioti, Maria

Source: Materia socio-medica; Mar 2018; vol. 30 (no. 1); p. 4-9

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29670471

Available at Materia Socio-Medica - from Europe PubMed Central - Open Access

Available at Materia Socio-Medica - from PubMed Central

Abstract: BackgroundThe most common risk factor for Atrial Fibrillation (AF) development is hypertension.Purposeto explore patients' characteristics associated with AF caused by hypertension.MethodsThe sample of the study included 170 patients with AF caused by hypertension. Data collection was performed by the method of interview using a questionnaire developed by the researchers of the study for the collection of demographic, clinical and other patients' characteristics.ResultsRegarding type of AF, 21.9% of the patients had paroxysmal AF while 64.5% and 13.6% had persistent and permanent AF, respectively. Patients who had persistent AF were receiving anticoagulants and antiarrhythmics at a higher percentage (88.8% and 82.2%,respectively) than patients with paroxysmal (69.4% and 72.2%, respectively) or permanent AF (69.6% and 56.5%, respectively). Patients with persistent AF had at a lower percentage their blood pressure controlled than patients with paroxysmal or permanent AF (85.3% vs. 97.3% and 95.7%, respectively). Patients with permanent AF had at a higher percentage >5 years onset of their heart problem (47.8%) than patients with paroxysmal or persistent AF (10.8% and 8.3%, respectively). Patients with permanent AF had at a higher percentage previous hospitalization due to AF (69.6%) than patients with paroxysmal (40.5%) or persistent AF

(62%). Lastly, patients with persistent AF were very informed about the state of their health at a higher percentage (33%) compared patients with paroxysmal or permanent AF (13.5% and 26,1%, respectively).ConclusionsThe present study revealed patients' characteristics that may be helpful when planning nursing interventions or guiding clinical decision-making.

Database: Medline

50. Sole and combined vitamin C supplementation can prevent postoperative atrial fibrillation after cardiac surgery: a systematic review and meta-analysis of randomized controlled trials.

Author(s): Shi, Rui; Li, Zhen-Han; Chen, Dan; Wu, Qing-Chen; Zhou, Xiao-Li; Tie, Hong-Tao

Source: Clinical cardiology; Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29603289

Available at Clinical cardiology - from Wiley Online Library Free Content - NHS

Available at Clinical cardiology - from IngentaConnect - Open Access

Abstract: We undertook a systematic review and meta-analysis to evaluate the effect of vitamin C supplementation (vitamin C solely or adjunct to other therapy) on prevention of postoperative atrial fibrillation (POAF) in patients after cardiac surgery. PubMed, EMbase, Web of Science and Cochrane Library were systematically searched to identify randomized controlled trials (RCTs) assessing the effect of vitamin C supplementation in adult patients undergoing cardiac surgery, and the meta-analysis was performed with random-effects model. Thirteen RCTs involving 1956 patients were included. Pooling estimate showed a significantly reduced incidence of POAF (RR 0.68, 95% CI 0.54 to 0.87, P = 0.002) both in vitamin C solely (0.75, 95% CI 0.63 to 0.90, P = 0.002) and adjunct to other therapy (RR 0.32, 95% CI 0.20 to 0.53, P < 0.001). The results remain stable and robust in subgroup and sensitivity analyses, and trial sequential analysis also confirmed the evidence was sufficient and conclusive. Additionally, vitamin C could significantly decrease ICU length of stay (WMD -0.24 days, 95% CI -0.45 to -0.03, P =0.023), HLOS (WMD -0.95 days, 95% CI -1.64 to -0.26, P = 0.007), and risk of adverse events (RR 0.45, 95% CI 0.21 to 0.96, P = 0.039). Use of vitamin C solely and adjunct to other therapy can prevent POAF in patients undergoing cardiac surgery and should be recommended for patients receiving cardiac surgery for prevention of POAF.

Database: Medline

51. Direct Oral Anticoagulants Versus Vitamin K Antagonists in Real-life Patients With Atrial Fibrillation. A Systematic Review and Meta-analysis.

Author(s): Escobar, Carlos; Martí-Almor, Julio; Pérez Cabeza, Alejandro; Martínez-Zapata, M José

Source: Revista espanola de cardiologia (English ed.); Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29606361

Abstract:INTRODUCTION AND OBJECTIVESTo assess the effectiveness of direct oral anticoagulants vs vitamin K antagonists in real-life patients with atrial fibrillation.METHODSA systematic review was performed according to Cochrane methodological standards. The results were reported according to the PRISMA statement. The ROBINS-I tool was used to assess risk of bias.RESULTSA total of 27 different studies publishing data in 30 publications were included. In the studies with a follow-up up to 1 year, apixaban (HR, 0.93; 95%CI, 0.71-1.20) and dabigatran (HR, 0.95; 95%CI, 0.80-1.13) did not significantly reduce the risk of ischemic stroke vs warfarin, whereas rivaroxaban significantly reduced this risk (HR, 0.83; 95%CI, 0.73-0.94). Apixaban (HR, 0.66; 95%CI, 0.55-0.80) and dabigatran (HR, 0.83; 95%CI, 0.70-0.97) significantly reduced the major bleeding risk vs warfarin, but not rivaroxaban (HR, 1.02; 95%CI, 0.95-1.10), although with a high statistical heterogeneity among studies. Apixaban (HR, 0.56; 95%CI, 0.42-0.73), dabigatran (HR, 0.45; 95%CI, 0.39-0.51), and rivaroxaban (HR, 0.66; 95%CI, 0.49-0.88) significantly reduced the risk of intracranial bleeding vs warfarin. Reduced doses of direct oral anticoagulants were associated with a slightly better safety profile, but with a marked reduction in stroke prevention effectiveness.CONCLUSIONSData from this meta-analysis suggest that, vs warfarin, the stroke prevention effectiveness and bleeding risk of direct oral anticoagulants may differ in real-life patients with atrial fibrillation.

Database: Medline

52. Interventions and Strategies to Improve Oral Anticoagulant Use in Patients with Atrial Fibrillation: A Systematic Review of Systematic Reviews.

Author(s): Ng, Siok Shen; Lai, Nai Ming; Nathisuwan, Surakit; Chaiyakunapruk, Nathorn

Source: Clinical drug investigation; Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29569095

Abstract:INTRODUCTIONAnticoagulation therapy is the fundamental approach for stroke prevention in atrial fibrillation (AF) patients. Numerous systematic reviews comparing anticoagulation strategies have been published. We aim to summarize the efficacy and safety evidence of these strategies in AF patients from previously published systematic reviews.METHODSWe searched PubMed, EMBASE and Cochrane library from inception to Feb 24th, 2017, to identify systematic reviews and meta-analyses of randomized controlled trials that assessed interventions or strategies to improve oral anticoagulant use in AF patients.RESULTSThirty-four systematic reviews were eligible for inclusion but only 11 were included in the qualitative analyses, corresponding to 40 unique meta-analyses, as the remaining systematic reviews had overlapping primary studies. There was insufficient evidence to support the efficacy of genotype-guided dosing and pharmacist-managed anticoagulation clinics for stroke prevention in AF patients. Conversely, patient's self-management and novel oral anticoagulants (NOACs), in general were superior to warfarin for preventing stroke and reducing mortality. All interventions showed comparable risk of major bleeding with warfarin.CONCLUSIONFindings from this overview support the superiority of NOACs and patient's self-management for preventing stroke in AF patients. However, uncertainties remain on the benefits of genotype-guided dosing and pharmacist-managed anticoagulation clinics due to poor quality evidence, and future research is warranted.

Database: Medline

53. Cryoballoon versus radiofrequency ablation for paroxysmal atrial fibrillation: a meta-analysis of randomized controlled trials.

Author(s): Murray, Marie-Isabel; Arnold, Ahran; Younis, Murad; Varghese, Swaroop; Zeiher, Andreas Michael

Source: Clinical research in cardiology : official journal of the German Cardiac Society; Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29564527

Abstract:OBJECTIVEThe aim of this study was to evaluate the clinical efficacy and safety outcomes of the treatment with cryoballoon (CB) compared to the treatment with traditional irrigated radiofrequency ablation (RF) for pulmonary vein isolation (PVI) in patients with paroxysmal atrial fibrillation (pAF) and refractory to antiarrhythmic drug therapy (AAD).DESIGNWe conducted a systemic review to find and include more than two randomized controlled trials (RCTs) with at least 20 patients in each of the CB and RF groups. Thereafter, we performed a meta-analysis to compare the treatment with CB and RF in primary outcomes including 1 year free from AF, complications and re-ablation procedures. Additionally, we evaluated procedure time and fluoroscopy duration in both groups. Risk of bias in the individual studies and across studies was assessed using Cochrane methods.DATA EXTRACTION AND SYNTHESISTwo reviewers extracted study data and assessed risk of bias. Primary outcome data were extracted from the time point 1 year after the procedure. The random-effects model was used to calculate the odds ratio with 95% confidence interval.DATA SOURCESData sources utilized were PubMed and CENTRAL databases up to 16 June 2016.ELIGIBILITY CRITERIA FOR SELECTING STUDIESIncluded studies were RCTs in adults with pAF and refractory to AAD in which CB therapy, including 1st and 2nd generation CB, was compared to the traditional irrigated RF therapy. Clinical outcomes assessed in each RCT were 1 year AF-free survival, complication rates, re-ablations, fluoroscopy time and procedure time.RESULTSThe systematic review identified four randomized controlled trials that reported on comparative clinical outcomes involving 1284 patients. Our meta-analysis demonstrated that CB ablation had a non-significant higher success rate than RF therapy (OR 1.13; 95% CI 0.72-1.77). However, our study showed a relatively higher rate of complications in the CB group (OR 1.20; 95% CI 0.58-2.52). Furthermore, CB treatment was associated with a non-significant, shorter procedure time and marginally prolonged fluoroscopy time in comparison to RF treatment.CONCLUSIONOur systemic review and meta-analysis revealed further evidence that cryoballoon ablation is an equally effective alternative procedure to the standard radiofrequency

treatment with a slightly, non-significant higher freedom from AF 1 year after the ablation and a shorter procedure time.

Database: Medline

54. Opportunistic screening for heart failure with natriuretic peptides in patients with atrial fibrillation: a meta-analysis of individual participant data of four screening studies.

Author(s): van Doorn, Sander; Geersing, Geert-Jan; Kievit, Rogier F; van Mourik, Yvonne; Bertens, Loes C; van Riet, Evelien E S; Boonman-de Winter, Leandra J; Moons, Karel G M; Hoes, Arno W; Rutten, Frans H

Source: Heart (British Cardiac Society); Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29549089

Available at Heart (British Cardiac Society) - from BMJ Journals - NHS

Available at Heart (British Cardiac Society) - from BMJ Journals

Abstract:OBJECTIVEHeart failure (HF) often coexists in atrial fibrillation (AF) but is frequently unrecognised due to overlapping symptomatology. Furthermore, AF can cause elevated natriuretic peptide levels, impairing its diagnostic value for HF detection. We aimed to assess the prevalence of previously unknown HF in community-dwelling patients with AF, and to determine the diagnostic value of the amino-terminal pro B-type natriuretic peptide (NTproBNP) for HF screening in patients with AF.METHODSIndividual participant data from four HF-screening studies in older community-dwelling persons were combined. Presence or absence of HF was in each study established by an expert panel following the criteria of the European Society of Cardiology. We performed a two-stage patient-level meta-analysis to calculate traditional diagnostic indices.RESULTSOf the 1941 individuals included in the four studies, 196 (10.1%) had AF at baseline. HF was uncovered in 83 (43%) of these 196 patients with AF, versus 381 (19.7%) in those without AF at baseline. Median NTproBNP levels of patients with AF with and without HF were 744 pg/mL and 211 pg/mL, respectively. At the cut-point of 125 pg/mL, sensitivity was 93%, specificity 35%, and positive and negative predictive values 51% and 86%, respectively. Only 23% of all patients with AF had an NTproBNP level below the 125 pg/mL cut-point, with still a 13% prevalence of HF in this group.CONCLUSIONSWith a prevalence of nearly 50%, unrecognised HF is common among community-dwelling patients with AF. Given the high prior change, natriuretic peptides are diagnostically not helpful, and straightforward echocardiography seems to be the preferred strategy for HF screening in patients with AF.

Database: Medline

55. Meta-Analysis Comparing the Safety and Efficacy of Dual Versus Triple Antithrombotic Therapy in Patients With Atrial Fibrillation Undergoing Percutaneous Coronary Intervention.

Author(s): Cavallari, Ilaria; Patti, Giuseppe

Source: The American journal of cardiology; Mar 2018; vol. 121 (no. 6); p. 718-724

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29373105

Available at The American journal of cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: In patients with atrial fibrillation undergoing percutaneous coronary intervention (PCI), the effectiveness and safety of dual compared with triple antithrombotic therapy are a matter of debate, especially when considering the prevention of end points at low incidence, such as myocardial infarction (MI), stent thrombosis, or mortality. This study-level meta-analysis included 4 controlled randomized trials and 6,036 patients with a clinical indication to chronic oral anticoagulation (OAC) after PCI, mainly for atrial fibrillation. Patients receiving dual therapy with a single antiplatelet agent, essentially a P2Y12 inhibitor, plus OAC were compared with those treated with triple therapy (aspirin, a P2Y12 inhibitor, and OAC). The incidence of the following outcomes was evaluated: Thrombolysis In Myocardial Infarction major and minor bleeding, MI, stent thrombosis, stroke, cardiovascular, and all-cause death. Occurrence of Thrombolysis In Myocardial Infarction major bleeding was significantly lower in patients treated with dual therapy: 1.97% versus 3.53% in those on triple therapy (odds ratios 0.55, 95% confidence interval 0.39 to 0.78, p = 0.0007); rates of minor bleeding were also decreased in the former (57% relative reduction). With dual therapy, there was not a statistically significant

difference in all-cause and cardiovascular mortality (3.81% vs 4.01%, p = 0.37 and 1.62% vs 2.02%, p = 0.42, respectively). Incidence of MI (3.25% vs 2.78%, p = 0.61), definite stent thrombosis (0.92% vs 0.66%, p = 0.46), and stroke (1.28% vs 1.32%, p = 0.85) was similar in the 2 treatment strategies. In patients with long-term indication to OAC after PCI, compared with triple therapy, dual antithrombotic therapy reduces bleeding, without an excess in thromboembolic and ischemic cardiac events.

Database: Medline

56. Efficacy and Safety of the Use of Non-Vitamin K Antagonist Oral Anticoagulants in Patients With Nonvalvular Atrial Fibrillation and Concomitant Aspirin Therapy: A Meta-Analysis of Randomized Trials.

Author(s): Bennaghmouch, Naoual; de Veer, Anne J W M; Bode, Kerstin; Mahmoodi, Bakhtawar K; Dewilde, Willem J M; Lip, Gregory Y H; Brueckmann, Martina; Kleine, Eva; Ten Berg, Jurriën M

Source: Circulation; Mar 2018; vol. 137 (no. 11); p. 1117-1129

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29101289

Abstract:BACKGROUNDCurrent guidelines recommend non-vitamin K antagonist oral anticoagulants (NOACs) as the first-choice therapy in patients with nonvalvular atrial fibrillation because these drugs have several benefits over the vitamin K antagonists (VKAs). It is unknown whether these benefits remain when NOACs have to be combined with aspirin therapy. To assess the efficacy and safety of NOACs compared with VKAs in patients with atrial fibrillation and concomitant aspirin therapy, we conducted a systematic review and study-based meta-analysis of published randomized controlled trials.METHODSA systematic electronic literature search was done in MEDLINE, EMBASE, and Cochrane CENTRAL Register of Controlled Trials for studies including published data of patients ≥18 years of age with nonvalvular atrial fibrillation, randomized to either VKAs or NOACs, or receiving aspirin therapy at any time during the study that report all-cause stroke or systemic embolism, vascular death, myocardial infarction, major bleeding, or intracranial hemorrhage as an outcome. Hazard ratios (HRs) with 95% confidence intervals (CIs) for each outcome were extracted from the individual studies and pooled with random-effects meta-analysis.RESULTSThis study-based meta-analysis was restricted to the subgroups of patients on aspirin therapy (n=21 722) from 4 randomized controlled trials comparing VKAs and NOACs (n=71 681) in nonvalvular atrial fibrillation. In this meta-analysis including patients on mainly low-dose aspirin, NOACs were found to be more effective (outcome of stroke or systemic embolism: HR, 0.78; 95% CI, 0.67-0.91; vascular death: HR, 0.85; 95% CI, 0.76-0.93) and as safe as VKAs with respect to major bleeding (HR, 0.83; 95% CI, 0.69-1.01). NOACs were safer with respect to the reduction of intracranial hemorrhage (HR, 0.38; 95% CI, 0.26-0.56).CONCLUSIONSThis study-based meta-analysis shows that it may be both safer and more effective to use NOACs compared with VKAs to treat patients with nonvalvular atrial fibrillation and concomitant aspirin therapy.

Database: Medline

57. Non-vitamin K antagonist oral anticoagulants have better efficacy and equivalent safety compared to warfarin in elderly patients with atrial fibrillation: A systematic review and meta-analysis.

Author(s): Kim, In-Soo; Kim, Hyun-Jung; Kim, Tae-Hoon; Uhm, Jae-Sun; Joung, Boyoung; Lee, Moon-Hyoung; Pak, Hui-Nam

Source: Journal of cardiology; Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29519547

Abstract:BACKGROUNDTo evaluate the efficacy and safety of non-vitamin K antagonist oral anticoagulants (NOACs) in elderly patients (aged ≥75 years) with atrial fibrillation (AF), depending on dose and/or renal function.METHODSAfter systematically searching the databases (Medline, EMBASE, CENTRAL, SCOPUS, and Web of Science), 5 phase III randomized controlled trials and reported data according to subgroups of elderly/non-elderly AF patients, comparing any NOACs and warfarin were included. The primary efficacy and safety outcomes were stroke/systemic thromboembolism and major bleeding.RESULTS(1) NOACs showed better efficacy than warfarin in elderly patients [RR 0.83 (0.69-1.00), p=0.04, I2=55%], but equivalent efficacy in non-elderly patients. (2) NOACs reduced major bleeding compared to warfarin in non-elderly (p<0.001) and had comparable safety to warfarin in elderly patients. (3) Even in elderly patients with moderately impaired

renal function, NOACs had a safety profile comparable to that of warfarin for major bleeding if dose reduction was reached appropriately [pooled RR 0.82 (0.35-1.88), p=0.63, I2=63%]. (4) All-cause mortality was lower with NOACs in non-elderly patients [RR 0.89 (0.83-0.95), p=0.001, I2=0%], and with standard-dose NOAC group of elderly patients [RR 0.93 (0.86-1.00), p=0.04, I2=0%] compared to warfarin.CONCLUSIONSFor elderly patients (aged ≥75 years), NOACs showed better efficacy and equivalent safety compared to warfarin even in those with moderately impaired renal function. All-cause mortality was lower with standard-dose NOACs compared to warfarin in the elderly patient group.SYSTEMATIC REVIEW REGISTRATIONThe protocol of this meta-analysis was registered on PROSPERO under CRD42016047922 (https://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016047922).

Database: Medline

58. Relations of Anticoagulant Therapy with Cognitive Impairment among Patients with Atrial Fibrillation: A Meta-Analysis and Systematic Review.

Author(s): Cheng, Wenke; Liu, Weijun; Li, Bin; Li, Dongfang

Source: Journal of cardiovascular pharmacology; Mar 2018

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29528873

Abstract:BACKGROUNDCurrently, it is considered that atrial fibrillation (AF) is a risk factor for cognitive impairment and dementia, which is independent of stroke. However, the relationship between anticoagulant drugs and cognitive function in patients with atrial fibrillation is unknown.OBJECTIVESThis study aimed to complete a meta-analysis, and investigate the association between Anticoagulant therapy and cognitive impairment in patients undergoing AF.METHODS AND RESULTSTwo investigators systematically searched the Cochrane Library, PubMed, Embase databases and Web of Science for all studies showing associations. Hazard ratios (HRs) were extracted and pooled.RESULTS8 studies included 471057 participants; TTR 75%; (HR 3.02, 95% CI 1.12-8.91; P=0.03); TTR 25-50% vs TTR> 75% (HR 2.44, 95% CI 0.95-6.22; P=0.06); TTR 50-75% vs TTR> 75% (HR 1.75, 95% CI 0.90-3.99; P=0.1); OAC vs No OAC (HR 0.71, 95% CI.69-0.74; P<0.00001) NOAC vs warfarin (HR0.51, 95% CI0.37-0.71; P<0.00001).CONCLUSIONSOral anticoagulants (OAC) significantly reduce the occurrence of cognitive impairment in patients with atrial fibrillation. Compared with warfarin, NOAC has an efficiently protective effect on cognition. In the range of INR2-3, with the increase of TTR, the incidence of cognitive impairment is lower.

Database: Medline

59. Intravenous Flecainide for Emergency Department Management of Acute Atrial Fibrillation.

Author(s): Markey, Gerard C; Salter, Nigel; Ryan, John

Source: The Journal of emergency medicine; Mar 2018; vol. 54 (no. 3); p. 320-327

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29269083

Abstract:BACKGROUNDAtrial fibrillation (AF) is the most commonly encountered dysrhythmia in the emergency department, and its prevalence is increasing. A substantial proportion of these patients have recent-onset AF (<48 h). The poor prognosis associated with AF is being increasingly recognized, and there is some evidence for better outcomes in younger patients with recent-onset AF when sinus rhythm is restored. Flecainide is recommended in the latest international guidelines for cardioversion of recent-onset AF, but its safety and efficacy relative to other recommended agents are unclear.OBJECTIVEOur aim was to clarify the Level 1 evidence for the use of i.v. flecainide in acute AF.METHODSWe performed a systematic review and meta-analysis of the literature. Medline, Ovid, Embase, and Cochrane Central databases were searched for relevant studies. Only randomized controlled trials (RCTs) of i.v. flecainide for acute conversion of recent-onset AF were selected for meta-analysis.RESULTSFour hundred and three studies were screened, of which 11 RCTs were eligible for meta-analysis. Flecainide had high efficacy for cardioversion within 2 h (number needed to treat [NNT] = 1.8). Efficacy was superior to propafenone, amiodarone, procainamide, ibutilide, and sotalol (NNT = 4.3). There was no statistically significant difference in pro-dysrhythmia compared to these anti-dysrhythmics or placebo.CONCLUSIONSIntravenous flecainide cardioversion could be a safe and effective option for emergency physicians to restore sinus rhythm in selected patients with acute AF.

Database: Medline

60. Assessment and Management of the Left Atrial Appendage Thrombus in Patients With Nonvalvular Atrial Fibrillation.

Author(s): Zhan, Yang; Joza, Jacqueline; Al Rawahi, Mohamed; Barbosa, Rodrigo S; Samuel, Michelle; Bernier, Martin; Huynh, Thao; Thanassoulis, George; Essebag, Vidal

Source: The Canadian journal of cardiology; Mar 2018; vol. 34 (no. 3); p. 252-261

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29395705

Abstract:BACKGROUNDIntracardiac thrombi arising in the left atrial appendage (LAA) are the principal cause of stroke in nonvalvular atrial fibrillation (AF). Predicting the presence of LAA thrombi is of vital importance in stratifying patients that would need further LAA imaging prior to cardioversion or AF ablation.METHODSWe comprehensively searched PubMed from its inception to November 2017 for randomized controlled trials, cohort and case control studies, as well as for case series on LAA thrombi risk factors, imaging, prevention, and anticoagulation management in atrial fibrillation.RESULTSA systematic review of the literature identified 106 articles that investigated the presence of LAA thrombi in AF patients. We classified the articles according to topic and reported on: (1) risk factors; (2) diagnostic imaging modalities; (3) prevention strategies before cardioversion; (4) prevention strategies before AF ablation; and (5) management of detected LAA thrombi.CONCLUSIONSIntegration of clinical, biomarker, and imaging risk factors can improve overall prediction for the presence of LAA thrombi, translating into improved patient selection for imaging. The gold standard for the diagnosis of LAA thrombi remains transesophageal echocardiography, although intracardiac ultrasound, cardiac computed tomography, and cardiovascular magnetic imaging are promising alternative modalities. When LAA thrombi are discovered, the treatment regimen remains variable, although direct oral anticoagulants might have efficacy similar to vitamin K antagonists. Future trials will help further elucidate direct oral anticoagulant use for the treatment of LAA thrombi.

Database: Medline

61. Antithrombotic Therapy in Patients With Atrial Fibrillation Undergoing Percutaneous Coronary Intervention: Where Are We Now?

Author(s): D'Angelo, Ryan G; McGiness, Thaddeus; White, Laura H

Source: The Annals of pharmacotherapy; Mar 2018 ; p. 1060028018766837

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29577768

Abstract:OBJECTIVETo synthesize the literature and provide guidance to practitioners regarding double therapy (DT) and triple therapy (TT) in patients with atrial fibrillation (AF) requiring percutaneous coronary intervention (PCI).DATA SOURCESPubMed and MEDLINE (January 2000 to February 2018) were searched using the following terms: atrial fibrillation, myocardial infarction, acute coronary syndrome, percutaneous coronary intervention, anticoagulation, dual-antiplatelet therapy, clopidogrel, aspirin, ticagrelor, prasugrel, and triple therapy.STUDY SELECTION AND DATA EXTRACTIONThe results included randomized and nonrandomized clinical trials and meta-analyses. Each study was reported based on study design, population, intervention, comparator, and key cardiovascular (CV) and bleeding outcomes.DATA SYNTHESISA total of 15 studies were included in the review. The majority of studies evaluating DT and TT utilized clopidogrel and warfarin as components of the regimen, although there are emerging data with newer agents. Evidence purporting DT regimens to be equally effective in preventing CV events and improved safety profiles compared with TT regimens included populations with relatively low risk for recurrent CV events, and many of these studies were observational in nature. Overall, current evidence as well as American and European guidelines support the use of TT in patients with AF who require PCI for the least possible amount of time, depending on patient-specific factors involving bleeding and thrombosis.CONCLUSIONSIn the majority of patients with AF who require PCI, TT should be used for the shortest period of time possible. DT regimens may be used in patients requiring PCI who have low risk for thrombosis and/or high bleeding risk.

Database: Medline

62. Blood transfusion and risk of atrial fibrillation after coronary artery bypass graft surgery: A meta-analysis of cohort studies.

Author(s): Liu, Shengqun; Li, Zhanwen; Liu, Zhe; Hu, Zhenhua; Zheng, Gaifang

Source: Medicine; Mar 2018; vol. 97 (no. 10); p. e9700

Publication Date: Mar 2018

Publication Type(s): Meta-analysis Journal Article Review

PubMedID: 29517692

Available at Medicine - from Europe PubMed Central - Open Access

Available at Medicine - from IngentaConnect - Open Access

Available at Medicine - from PubMed Central

Abstract: The aim of this study was to systematically evaluate the effect of blood transfusion (BT) on postoperative atrial fibrillation (AF) in adult patients who had undergone coronary artery bypass grafting (CABG) surgery.PubMed, Embase, and Cochrane Library databases from inception to January 2017 were searched. Cohort studies were searched that evaluated the association between BT and the risk of postoperative AF in adult patients who had undergone CABG surgery. Study quality was assessed by using the Newcastle-Ottawa scale (NOS). A meta-analysis was performed with the random-effect model.Eight cohort studies involving 7401 AF cases and 31,069 participants were identified and included in our data analysis. The pooled odds ratio of postoperative AF in patients with BT was 1.45 (95% confidence interval, 1.26-1.67), with significant heterogeneity (P<.0001, I=79%). Excluding one study that had an off-pump CABG did not significantly impact this result (odds ratio, 1.36; 95% confidence interval, 1.23-1.50; n=7). To examine the stability of the primary results, we performed subgroup analyses. The association between BT and the risk of postoperative AF was similar, as determined in the stratified analyses conducted according to study design, type of surgery, and country.The findings of the present meta-analysis demonstrated a statistically significant increase in postoperative AF risk among adult patients with BT. Further prospective large-scale studies are needed to establish causality and to elucidate the underlying mechanisms.

Database: Medline

63. N-3 polyunsaturated fatty acids for prevention of postoperative atrial fibrillation: updated meta-analysis and systematic review.

Author(s): Wang, Hao; Chen, Jindong; Zhao, Liang

Source: Journal of interventional cardiac electrophysiology : an international journal of arrhythmias and pacing; Mar 2018; vol. 51 (no. 2); p. 105-115

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29380237

Abstract:BACKGROUND OR PURPOSEN-3 polyunsaturated fatty acids (PUFA) have been postulated to have an anti-arrhythmic effect on postoperative atrial fibrillation (POAF), with conflicting results among studies. This study on pooled data evaluated the effect of PUFA on POAF among patients undergoing cardiac surgery.METHODSThe Pubmed, EMBASE, and CENTRAL databases were searched without restriction on language for randomized controlled trials on the effect of PUFA on POAF that were published before August 31, 2017. The incidence of POAF was extracted as primary endpoint. Pooled data were assessed by using a random-effects model.RESULTSOut of 269 articles identified, 14 studies with 3570 patients were eligible and included in the meta-analysis. PUFA reduced incidence of POAF (RR 0.84 [95% CI 0.73-0.98], P = 0.03). The funnel plot and fail-safe number suggested insignificant publication bias. In sensitivity and subgroup analyses, (1) PUFA was effective in preventing POAF for eicosapentaenoic acid (EPA)/DHA 1 or unknown; (2) the efficacy in reducing POAF was apparent when placebo was usual care (0.59 [0.44-0.80], P = 0.0005), but not when placebo was non-fish oils; and (3) PUFA reduced POAF after CABG (0.68 [0.47-0.97], P = 0.03), but not other cardiac surgery.CONCLUSIONSPUFA appears to reduce the incidence of POAF. However, the said protective effect may be influenced by EPA/DHA ratio, with < 1 appearing preferable. PUFA efficacy on POAF prevention appeared insignificant when compared with non-fish oils and only apparent in the setting of CABG alone. Further studies are needed to confirm the effect of PUFA on POAF and to assess the proper use of PUFA against POAF.

Database: Medline

64. Atrial fibrillation is associated with sudden cardiac death: a systematic review and meta-analysis.

Author(s): Rattanawong, Pattara; Upala, Sikarin; Riangwiwat, Tanawan; Jaruvongvanich, Veeravich; Sanguankeo, Anawin; Vutthikraivit, Wasawat; Chung, Eugene H

Source: Journal of interventional cardiac electrophysiology : an international journal of arrhythmias and pacing; Mar 2018; vol. 51 (no. 2); p. 91-104

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29332241

Abstract:PURPOSERecent studies suggest that atrial fibrillation (AF) is associated with increased cardiovascular risk and mortality including sudden cardiac death (SCD). According to the Cardiovascular Heath Study cohort, the incident rate of SCD was higher in the AF population (2.9 per 1000 per year) compared with non-AF controls (1.3 per 1000 per year). In this study, we performed a systematic review and meta-analysis to explore the association between AF and SCD.METHODSWe comprehensively searched the databases of MEDLINE and EMBASE from inception to January 2017. Included studies were published prospective or retrospective cohort studies that compared the risk of developing SCD, defined by World Health Organization's criteria, in AF patients versus non-AF patients. Data from each study were combined using the random-effects, generic inverse variance method of DerSimonian and Laird to calculate the risk ratios and 95% confidence intervals.RESULTSTwenty-seven studies from January 1991 to February 2017 involving 8401 AF patients and 67,608 non-AF controls were included in this meta-analysis. Compared with controls, AF patients had a significantly higher risk of SCD in overall analysis (pooled risk ratio = 2.04, 95% confidence interval: 1.77-2.35, $p < 0.01$, $I2 = 42.66$) as well as subgroups of general population studies, previous myocardial infarction or coronary artery disease, heart failure, hypertrophic cardiomyopathy (HCM), Brugada syndrome, and patients with either a pacemaker or implantable cardioverter defibrillator (ICD). In subgroup analysis of multivariate-adjusted studies, AF also had a significantly higher risk of SCD (pooled risk ratio = 2.22, 95% confidence interval = 1.59-3.09, $p < 0.01$, $I2 = 73.95$). Incident rate of SCD in AF was 2-fold higher than controls but not statistically significant (pooled rate ratio = 2.06, 95% confidence interval = 0.66-7.53, $p = 0.292$, $I2 = 88.58$).CONCLUSIONSOur meta-analysis demonstrates a statistically significant increased risk of SCD with AF in the general population and in those with previous myocardial infarction, coronary artery disease, heart failure, HCM, Brugada syndrome, and an implanted rhythm device.

Database: Medline

65. Age modifies the risk of atrial fibrillation among athletes: A systematic literature review and meta-analysis.

Author(s): Ayinde, Hakeem; Schweizer, Marin L; Crabb, Victoria; Ayinde, Adedayo; Abugroun, Ashraf; Hopson, James

Source: International journal of cardiology. Heart & vasculature; Mar 2018; vol. 18 ; p. 25-29

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29556526

Available at International Journal of Cardiology. Heart & Vasculature - from Europe PubMed Central - Open Access

Available at International Journal of Cardiology. Heart & Vasculature - from PubMed Central

Abstract: BackgroundThe relationship between competitive sports and atrial fibrillation (AF) is controversial. We aimed to systematically evaluate and summarize all published observational data on the association between competitive sports and AF.Methods and resultsWe searched PubMed, EMBASE, Scopus and SportDiskus for all observational studies that assessed the risk of AF among athletes involved in competitive sports. Data were extracted and pooled odds ratios (OR) were calculated using random effects models. Six cohort studies and 2 case-control studies with a total of 9113 subjects were included in our meta-analysis. Pooled analyses showed an increased risk of incident and prevalent AF among athletes compared to the general population (OR = 1.64 [95% confidence interval (CI): 1.10-2.43]). Age-stratified analysis revealed an effect modification with age. Studies enrolling younger adults (<54 years) had an increased risk of AF among athletes compared to controls (OR = 1.96 [95% CI: 1.06-3.65]), but this association was not seen among older adults ≥54 years (OR = 1.41 [95% CI: 0.81-2.44], $p = 0.23$).ConclusionAthletes have an increased risk of AF compared to the general population. Age appears to modify the risk of AF in athletes.

Database: Medline

66. Incidence of postoperative atrial fibrillation recurrence in patients discharged in sinus rhythm after cardiac surgery: a systematic review and meta-analysis.

Author(s): Lowres, Nicole; Mulcahy, Georgina; Jin, Kai; Gallagher, Robyn; Neubeck, Lis; Freedman, Ben

Source: Interactive cardiovascular and thoracic surgery; Mar 2018; vol. 26 (no. 3); p. 504-511

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29161419

Abstract: Postoperative atrial fibrillation (POAF) is associated with increased stroke risk and mortality post-discharge. POAF is often considered transient; however, recurrence is likely under-recognized as symptoms are an unreliable guide. Surveillance post-discharge may identify asymptomatic POAF recurrences in patients discharged in sinus rhythm. Therefore, we performed a systematic review and meta-analysis of studies investigating POAF recurrence post-discharge, in patients with new-onset POAF following cardiac surgery who reverted to sinus rhythm prior to discharge. Two independent reviewers searched medical databases, clinical trial registries, reference lists and the Internet. After screening from 6525 studies, 8 studies were identified (n = 1157 participants, mean age 66 ± 10 years and 73% men). Monitoring methods included the following: telemetry during twice-daily exercise sessions (n = 2), continuous telemetry for 3 weeks (n = 1), daily 20-s electrocardiography (ECG) using wearable event recorder (n = 1), 30-s single-lead ECG, 4 times/day (n = 1) and implanted continuous monitoring (n = 2). The incidence rate of POAF recurrence identified through non-invasive monitoring in the first 4 weeks post-discharge was 28.3% [confidence interval (CI) 23.0-33.6%]; recurring 12 ± 5 days (mean ± SD) post-surgery. The incidence rate identified through implanted continuous monitoring was 61-100% within 2 years. Between 40% and 93% of episodes were asymptomatic. In one small study reporting stroke risk, 8 of 10 patients with recurrence were guideline-indicated (CHA2DS2-VASc score ≥2) for oral anticoagulation for stroke prevention. Monitoring for POAF recurrence post-hospital discharge identifies significant numbers of early asymptomatic recurrences in patients at high risk of stroke who may benefit from anticoagulation for stroke prevention. More intense monitoring is more likely to identify POAF recurrence. Future research is required to investigate the prognostic significance of POAF recurrence, especially stroke and mortality risk.

Database: Medline

67. Preoperative Use of Oral Beta-Adrenergic Blocking Agents and the Incidence of New-Onset Atrial Fibrillation After Cardiac Surgery. A Systematic Review and Meta-Analysis.

Author(s): Thein, Paul Min; White, Kyle; Banker, Khyati; Lunny, Carole; Mirzaee, Sam; Nasis, Arthur

Source: Heart, lung & circulation; Mar 2018; vol. 27 (no. 3); p. 310-321

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29129562

Abstract:BACKGROUNDCurrent epidemiological data suggests that postoperative atrial fibrillation or atrial flutter (POAF) causes significant morbidity and mortality after cardiac surgery. The literature for prophylactic management of POAF is limited, resulting in the lack of clear guidelines on management recommendations.AIMTo examine the efficacy of prophylactic rate control agents in reducing the incidence of new-onset POAF in patients undergoing elective cardiac surgery.METHODSCochrane Central Register of Controlled Trials (CENTRAL), Embase, and Medline were systematically searched for blinded randomised controlled studies (RCT) evaluating adults with no history of atrial fibrillation randomised to a pharmacological agent (either beta blocker, calcium channel blocker or digoxin), compared to placebo. Utilising Cochrane guidance, three reviewers screened, extracted and the quality of the evidence was assessed. We used a random effects meta-analysis to compare a rate-control agent with placebo.RESULTSFive RCTs (688 subjects, mean age 61±8.9, 69% male) were included. Beta blocker administration prior to elective cardiac surgery significantly reduced the incidence of POAF (OR 0.43, 95%Cl [0.30-0.61], I2=0%) without significant impact on ischaemic stroke (OR 0.49, 95%Cl [0.10-2.44], I2=0%), non-fatal myocardial infarction (OR 0.76, 95%Cl [0.08-7.44], I2=0%), overall mortality (OR 0.83, 95%Cl [0.19-3.66], I2=0%), or length of stay (mean -0.96days 95%Cl [-1.49 to -0.42], I2=0%). An increased rate of bradycardic episodes was observed (OR 3.53, 95%Cl [1.22-10.23], I2=0%).CONCLUSIONSThis review suggests that selective administration of prophylactic oral beta blockers prior to elective cardiac surgery is safe and may reduce the incidence of POAF.

Database: Medline

68. Percutaneous left atrial appendage occlusion in the prevention of stroke in atrial fibrillation: a systematic review.

Author(s): Baman, Jayson R; Mansour, Moussa; Heist, E Kevin; Huang, David T; Biton, Yitschak

Source: Heart failure reviews; Mar 2018; vol. 23 (no. 2); p. 191-208

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29453694

Abstract: Atrial fibrillation is commonly coexistent with heart failure, and the management of the heart failure patient would be incomplete without an appreciation for atrial fibrillation management. There are many complications associated with oral anticoagulation in the prevention of stroke related to atrial fibrillation. In recent years, the advent of several percutaneous left atrial appendage (LAA) occlusion/closure strategies has sought to provide an alternative treatment modality. Here, we systematically review the published literature to investigate the efficacy and safety of percutaneous LAA occlusion/closure devices. We searched PubMed, EMBASE, Cochrane database of systematic reviews, and the FDA Medical Devices database. Using prespecified criteria, we identified studies of the Amplatzer Cardiac Plug (St. Jude Medical), Amplatzer Amulet (St. Jude Medical), Lariat suture delivery device (SentreHeart), and Watchman device (Boston Scientific). We analyzed 2 randomized controlled trials (RCT) and 15 non-randomized registries that satisfied the study criteria. The two RCT both studied the Watchman device versus standard warfarin therapy; the studies indicate that the Watchman may be non-inferior to warfarin. Long-term efficacy outcomes for the Watchman device are promising. Data regarding the Amplatzer Cardiac Plug, Amplatzer Amulet, and Lariat suture delivery device are limited by the paucity of RCT data. High-quality prospective research is needed to directly compare LAA occlusion/closure strategies against one another as well as versus the direct oral anticoagulation medications. Data regarding the role of LAA occlusion in the heart failure population are lacking.

Database: Medline

69. Comparison of major bleeding risk in patients with non-valvular atrial fibrillation receiving direct oral anticoagulants in the real-world setting: a network meta-analysis.

Author(s): Deitelzweig, S; Farmer, C; Luo, X; Li, X; Vo, L; Mardekian, J; Fahrbach, K; Ashaye, A

Source: Current medical research and opinion; Mar 2018; vol. 34 (no. 3); p. 487-498

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29188721

Abstract:OBJECTIVETo conduct a systematic literature review (SLR) and network meta-analysis (NMA) of real-world studies comparing major bleeding risk among patients with non-valvular atrial fibrillation (NVAF) on direct oral anticoagulants (DOACs) or warfarin.METHODSSystematic searches were conducted in MEDLINE and Embase for full-text articles published between January 1, 2003 and March 18, 2017. Eligible studies compared at least two of the following in a real-world setting: warfarin, apixaban, dabigatran, rivaroxaban, or edoxaban. A Bayesian NMA was conducted to estimate hazard ratios (HRs) for major bleeding using a random-effects model.RESULTSEleven studies were included in the NMA. Nine studies included DOACs vs Warfarin comparisons, and four studies included DOACs vs DOACs comparisons (two studies included both comparisons). Median follow-up duration ranged from 2.6-31.2 months. No evidence was identified for edoxaban. Apixaban was associated with a significantly lower risk of major bleeding compared to other oral anticoagulants (warfarin HR = 0.58; 95% credible interval [CrI] = 0.48-0.69; dabigatran = 0.73; 0.61-0.87; rivaroxaban = 0.55; 0.46-0.66). Dabigatran was associated with a significantly lower risk than warfarin (0.79; 0.71-0.88) and rivaroxaban (0.76; 0.67-0.85), and rivaroxaban was not statistically different from warfarin (1.05; 0.91-1.19). Sensitivity analyses with standard dose and sponsorship showed consistent results.CONCLUSIONDOACs were associated with lower or similar risk of major bleeding compared with warfarin in NVAF patients. Apixaban was associated with a significantly lower risk of major bleeding than other DOACs. Dabigatran was associated with a significantly lower risk of major bleeding compared to rivaroxaban and warfarin.

Database: Medline

70. Conventional Acupuncture for Cardiac Arrhythmia: A Systematic Review of Randomized Controlled Trials.

Author(s): Liu, Jing; Li, Si-Nai; Liu, Lu; Zhou, Kun; Li, Yan; Cui, Xiao-Yun; Wan, Jie; Lu, Jin-Jin; Huang, Yan-Chao; Wang, Xu-Sheng; Lin, Qian

Source: Chinese journal of integrative medicine; Mar 2018; vol. 24 (no. 3); p. 218-226

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 28432528

Abstract:OBJECTIVETo exam the effect and safety of conventional acupuncture (CA) on cardiac arrhythmia.METHODSNine medical databases were searched until February 2016 for randomized controlled trials. Heterogeneity was measured by Cochran Q test. Meta-analysis was conducted if I2 was less than 85% and the characteristics of included trials were similar.RESULTSNine qualified studies involving 638 patients were included. Only 1 study had definitely low risk of bias, while 7 trials were rated as unclear and 1 as high. Meta-analysis of CA alone did not have a significant benefit on response rate compared to amiodarone in patients with atrial fibrillation (Af) and atrial flutter (AF) [relative risk (RR): 1.09; 95% confidence interval (CI): 0.79-1.49; P=0.61; I2=61%, P=0.11]. However, 1 study with higher methodological quality detected a lower recurrence rate of Af in CA alone as compared with sham acupuncture plus no treatment, and benefits on ventricular rate and time of conversion to normal sinus rhythm were found in CA alone group by 1 study, as well as the response rate in CA plus deslanoside group by another study. Meta-analysis of CA plus anti-arrhythmia drug (AAD) was associated with a significant benefit on the response rate when compared with AAD alone in ventricular premature beat (VPB) patients (RR, 1.19, 95% CI: 1.05-1.34; P=0.005; I2=13%, P=0.32), and an improvement in quality-of-life score (QOLS) of VPB also showed in 1 individual study. Besides, a lower heart rate was detected in the CA alone group by 1 individual study when compared with no treatment in sinus tachycardia patients (MD-21.84 [-27.21,-16.47]) and lower adverse events of CA alone were reported than amiodarone.CONCLUSIONSCA may be a useful and safe alternative or additive approach to AADs for cardiac arrhythmia, especially in VPB and Af patients, which mainly based on a pooled estimate and result from 1 study with higher methodological quality. However, we could not reach a robust conclusion due to low quality of overall evidence.

Database: Medline

71. The Optimal Anti-Coagulation for Enhanced-Risk Patients Post-Catheter Ablation for Atrial Fibrillation (OCEAN) trial.

Author(s): Verma, Atul; Ha, Andrew C T; Kirchhof, Paulus; Hindricks, Gerhard; Healey, Jeff S; Hill, Michael D; Sharma, Mukul; Wyse, D George; Champagne, Jean; Essebag, Vidal; Wells, George; Gupta, Dhiraj; Heidbuchel, Hein; Sanders, Prashanthan; Birnie, David H

Source: American heart journal; Mar 2018; vol. 197 ; p. 124-132

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29447772

Abstract:BACKGROUNDThe optimal long-term antithrombotic regimen for patients after successful catheter-based atrial fibrillation (AF) ablation is not well defined. Presently, practice variation exists, and the benefits of oral anticoagulation over antiplatelet therapy across the entire spectrum of stroke risk profile remain undefined in the postablation population. To date, there are no randomized trials to inform clinicians on this therapeutic question.OBJECTIVEThe objective was to assess whether rivaroxaban is superior to acetylsalicylic acid (ASA) in reducing the risk of clinically overt stroke, systemic embolism, or covert stroke among patients without apparent recurrent atrial arrhythmias for at least 1 year after their most recent AF ablation procedure.METHODS/DESIGNA prospective, multicenter, open-label, randomized trial with blinded assessment of outcomes is under way (NCT02168829). Atrial fibrillation patients with at least 1 stroke risk factor (as defined by the CHA2DS2-VASc score) and without known atrial arrhythmia recurrences for at least 12 months after ablation are randomized to rivaroxaban 15 mg or ASA 75-160 mg daily. The primary outcome is a composite of clinically overt stroke, systemic embolism, and covert stroke based on brain magnetic resonance imaging. Key secondary outcomes include major bleeding outcomes, intracranial hemorrhage, transient ischemic attack, neuropsychological testing, quality of life, and an economic analysis. Subjects will be followed for 3 years. The estimated overall sample size is 1,572 subjects (786 per arm).DISCUSSIONThe OCEAN trial is a multicenter randomized controlled trial evaluating 2 antithrombotic treatment strategies for

patients with risk factors for stroke after apparently successful AF ablation. We hypothesize that rivaroxaban will reduce the occurrence of clinically overt stroke, systemic embolism, and covert stroke when compared with ASA alone.

Database: Medline

72. An integrated AF-Clinic reduces all-cause mortality in patients with atrial fibrillation

Author(s): Hendriks J.M.L.; Gallagher C.; Sanders P.; Crijns H.J.G.M.; Vrijhoef H.J.M.; Tieleman R.G.

Source: Europace; Mar 2018; vol. 20

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: Integrated care is a systematic approach to handle the growing burden of chronic diseases on the health care system. We have previously demonstrated that an Integrated, nurse-coordinated, specialised AF-Clinic in atrial fibrillation (AF) results in significant reduction in the composite endpoint of cardiovascular (CV) mortality and hospitalisation. Purpose: Here, we sought to investigate the impact of a nurse-coordinated, integrated AF-Clinic on all-cause mortality. Methods: This was a single-centre Randomised Controlled Trial (Clinicaltrials.gov: NCT00753259) that recruited consecutive patients referred for AF management. The study randomised 712 AF patients to the specialised AF-Clinic-AFC (n=356) vs Usual Care-UC (n=356). Data was collected between 2007-2009 with a follow-up of at least 12 months. AFC patients underwent protocolized clinical evaluation and counselling, and were actively involved in their care process (e.g. patient education and empowerment to undertake self-management interventions). Patients were seen by a nurse specialist, supervised by a cardiologist, using a dedicated software system to support clinical decision making. UC patients were treated by a cardiologist in the regular outpatient setting. The RCT data was used to perform a sub-analysis to investigate all-cause mortality. Results: At baseline, mean age was 67613, and 418 pts (59%) were male. Underlying comorbidity: hypertension 380 pts (53%), heart failure 50 pts (7%), coronary artery disease 71 pts (10%), stroke 89 pts (13%). Previously we reported the occurrence of the primary endpoint in 14.3% vs 20.8% in pts allocated to AFC vs UC respectively (hazard ratio [HR] 0.65 95% confidence interval [CI] 0.45 to 0.93; P=0.017). In the present sub-analysis we found that after a mean follow-up of 22 months, all-cause mortality in this population results in 13 pts (3.7%) in AFC vs 29 pts (8.1%) in UC (HR 0.44, 95% CI 0.23 to 0.85 P= 0.014). This includes CV mortality in 4 AFC pts (1.1%) vs 14 pts (3.9%) in UC (HR 0.28 95% CI 0.09 to 0.85 P=0.025). Further, 9 pts (2.5%) died in AFC due to a non-CV reason versus 15 pts (4.2%) in UC (HR 0.59 95% CI 0.26 to 1.34 P= 0.206). Conclusions: Integrated care in AF patients, in terms of a specialised AF-Clinic, resulted in significant improvement of CV hospitalization and mortality. This sub-analysis importantly demonstrates a significant reduction in all-cause mortality, providing compelling evidence for the notion that an integrated care approach should be implemented in AF management, which may contribute to improve clinical outcomes in AF patients and reduce the burden on the health care system.

Database: EMBASE

73. An integrated interdisciplinary approach for screening of obstructive sleep apnea in patients with atrial fibrillation

Author(s): Hendriks J.M.L.; Gallagher C.; Sanders P.; Linz D.; Desteghe L.; Dendale P.; McEvoy R.D.; Chai-Coetzer C.L.; Heidbuchel H.

Source: Europace; Mar 2018; vol. 20

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: Sleep apnea is present in up to three quarters of patients with atrial fibrillation (AF) and is associated with increased cardiovascular risk. Nevertheless, in daily practice it is highly underrecognized and underdiagnosed. The 2016 European Society of Cardiology (ESC) guidelines on the management of AF recommend interrogation of clinical signs of obstructive sleep apnea (OSA) in all AF patients and to improve effective OSA treatment. However, strategies how to implement this in clinical practice are not provided. Purpose: We propose an integrated, interdisciplinary care approach to improve the awareness and practicability for OSA screening and appropriate Continuous Positive Airway Pressure (CPAP) treatment in the standard work-up of symptomatic patients with AF. Methods: A literature review was performed to summarize the available clinical evidence on OSA in AF patients covering the following key topics: 1) Why is screening for OSA needed in AF patients, 2) How should screening be performed, 3) What would be an appropriate setting to perform and coordinate dedicated screening and treatment, and 4) Which health care professionals should be

involved in this process? Results: We propose an integrated pathway incorporating four key elements: 1) patient involvement, 2) interdisciplinary care teams, 3) use of technology and devices, and 4) a comprehensive approach to care, as suggested by the ESC guidelines on AF management. Ultimately, all patients with newly detected AF would be seen in a specialized AF-Clinic setting for diagnostic work-up and initiation of guideline based treatment. When a patient is considered for antiarrhythmic therapy or reports OSA specific symptoms, screening for OSA should commence with history taking along with an assessment of relevant clinical parameters. Due to low accuracy in AF patients, screening questionnaires cannot be used as a stand-alone diagnostic tool but may be important to evaluate the severity of OSA symptoms like daytime sleepiness. Polygraphy home monitoring is likely the way forward to screen for OSA in symptomatic AF patients considered for antiarrhythmic therapy. OSA should be diagnosed or ruled out by an interdisciplinary team of cardiologists, well-trained AF nurses and sleep specialists, which facilitates early and direct referrals to a sleep specialist clinic for polysomnography and CPAP initiation if moderate-to-severe OSA (apneahypopnoea index 15/h) is diagnosed. The integrated pathway serves as a navigation system to support awareness and practicability of OSA screening, interdisciplinary collaboration and coordination of follow-up. Conclusion: An integrated care approach for OSA screening in patients with AF within a cardiology or specialized AF-Clinic setting is likely the way forward to improve screening and treatment of OSA, as well as interdisciplinary coordinated follow-up focussing on CPAP adherence and related cardiovascular risk factor management.

Database: EMBASE

74. Anticoagulation, stroke and thromboembolism in patients with device detected atrial fibrillation: A systematic review and meta-analysis

Author(s): Croix G.R.S.; Ibrahim M.; De Marchena E.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial fibrillation episodes detected by an implanted pacemaker are associated with a two-fold increase in the risk of death or stroke. There is no consensus about characteristics of atrial fibrillation that should be taken for inclusion anticoagulation. We aim to evaluate the efficacy of anticoagulation management in patient with atrial fibrillation detected by pacemakers. Methods: We performed a literature review to identify randomized controlled studies that reported the use of anticoagulation in the management of patients with atrial fibrillation detected from implanted pacemakers. A total of 9 databases including MEDLINE, Embase, Cochrane, DARE and Scopus containing articles from January 1 1990 to July 31 2017 were analyzed. Results: We were able to identify and screen 714 potentially eligible publications through the databases 6 studies for a total of 7,245 patients were included. In patients who were anti-coagulated, there were no reduction in all-cause mortality (OR 1.09, 95% CI 0.89-1.34, p= 0.38). There is no statistical difference regarding the incidence of stroke, TIA or arterial embolism on the anti-coagulated group vs non anti-coagulated group (OR 1.44, 95% CI 1.10-1.87, p = 0.007). Conclusion: In patients with implanted pacemakers the strategy of initiation of anticoagulation based on remotely detected atrial fibrillation doesn't improve mortality and doesn't have a statistical difference in prevention of stroke, TIA or arterial embolism.

Database: EMBASE

75. Cost-effectiveness of extended and one-time screening for atrial fibrillation versus no screening in the united states

Author(s): Wygant G.D.; Oguz M.; Lanitis T.; Leipold R.; Friend K.; Mattke S.; Singer D.; Nikolaou A.; Hlavacek P.; Li S.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial fibrillation (AF) is a common arrhythmia, contributing to >=15% of strokes in the United States (US). Its often asymptomatic nature makes finding cases challenging, and 24.6% of AF cases remain undiagnosed. Research has focused on screening for AF to prevent stroke via timely intervention. We

assessed the cost-effectiveness of extended and one-time screening strategies versus no systematic screening for AF from a US payer perspective. Methods: We developed a Markov model to evaluate the clinical and economic impact of 14-day extended screening with a handheld ECG device and one-time screening with 12-lead ECG versus no screening. The model considered the general population free of diagnosed AF (age=75 at the start of model), separated into health states determined by AF presence and type (paroxysmal or permanent), diagnosis, and treatment status. Clinical events captured include ischemic stroke, systemic embolism, major bleeds, myocardial infarction, and death. Epidemiology and effectiveness data for extended screening were obtained from the STROKESTOP trial, effectiveness data for 12-lead ECG were from the SAFE study, and risks of clinical events in AF patients were from ARISTOTLE and published meta-analyses. Results: In a cohort of 1,000 patients screened at age 75 and followed over their lifetimes, extended screening and one-time screening were associated with 25.5 and 5.4 additional AF diagnoses respectively, compared to no screening. Both screening strategies led to better health outcomes (strokes prevented: 4.2 and 1.0; QALYs gained: 13.1 and 3.1). Extended screening and one-time screening were cost-effective versus no screening at a willingness-to-pay (WTP) threshold of $100,000 per QALY gained (Incremental Cost-effectiveness Ratio: $47,949 and $58,728 in 2016 USD, respectively). Results were sensitive to stroke risk in anticoagulated patients and the hazard ratio for stroke between patients with and without anticoagulation Conclusion: Screening the general population at age 75 years for AF is cost-effective at a WTP threshold of $100,000. Both extended screening and one-time screening for AF are expected to provide health benefts at an acceptable cost.

Database: EMBASE

76. Outcomes of post-operative atrial fibrillation after coronary artery bypass graft surgery: A meta-analysis

Author(s): Haddad T.M.; Parekh J.; Jhand A.; Kabach A.; Azzouz M.S.; White M.; Alla V.; Del Core M.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Post-operative atrial fibrillation (POAF) is common after coronary artery bypass graft (CABG) surgery. Many studies have evaluated the outcomes of POAF in patients undergoing CABG, but have demonstrated inconsistent results. We therefore systematically reviewed published literature and performed a meta-analysis to assess the outcomes of POAF after CABG. Methods: PubMed, Cochrane Library, and Web of Science databases were searched for studies evaluating the impact of POAF after CABG. POAF was defined as a new incidence of atrial fibrillation post-CABG. Primary endpoints were major adverse cardiac events (MACE) including all-cause mortality, stroke, and myocardial infarction (MI). Secondary outcomes were mortality, stroke, and MI. Odd ratio (OR) and 95% confdence intervals (CI) were used to evaluate the categorical variables. The analysis was done with the DerSimonian and Laird random effect model. Results: Six retrospective and fve prospective cohort studies met the criteria for inclusion with a total of 83,080 patients (POAF group: 19,392; no POAF group: 63,688). Mean age was 64.2 years old, and 73% were male. Follow-up varied between 4 to 8 years. Patients who had POAF had signifcantly higher MACE. Secondary outcomes showed that the POAF group had higher mortality and stroke, but no signifcant difference in MI ([Figure Presented]). Conclusion: Our analysis suggests that patients with POAF after CABG have higher risk of major cardiac events, particularly stroke and all-cause mortality.

Database: EMBASE

77. Cardiac resynchronization therapy does not benefit heart failure patients with atrial fibrillation without atrio-ventricular junction ablation: A meta-analysis

Author(s): Atkins J.; Mustafa U.; Dawson D.; Reddy P.; Dominic P.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Heart failure (HF) and atrial fibrillation (AF) predispose to each other. CRT is benefcial in selected HF patients in sinus rhythm (SR), but its beneft in AF patients has been controversial. This meta-

analysis evaluated the impact of cardiac resynchronization therapy (CRT) in HF patients with concomitant AF. Methods: Pubmed was searched for studies that reported outcomes in HF patients with CRT and AF. We performed following comparisons: 1) CRT-AF versus CRT-SR 2) CRT-AF patients who underwent atrio-ventricular junction ablation (AVJA) versus CRT-SR 3) CRT-AF+ AVJA versus CRT-AF minus AVJA 4) HF patients with AF that received CRT versus CRT-indicated HF patients with AF that received ICD or medical management. Outcomes were all-cause and cardiovascular mortality, left ventricular ejection fraction (LVEF), New York heart association (NYHA) class and 6 minute walk distance (6MWD). Random effect model was used to calculate odds ratios (ORs) and 95% confdence intervals. Results: 26 studies with 79,528 patients were included. CRT-AF patients had signifcantly higher all-cause and cardiovascular mortality than CRT patients in SR (OR:1.505, 95 % CI: 1.327 to 1.708, P<0.001) and (OR:1.857, 95 % CI: 1.350 to 2.554, P<0.001) respectively. CRT patients in SR had a greater increase in LVEF than CRT-AF patients (SMD:-1.888, 95 % CI:-3.467 to-0.310, P=0.019). CRT-AF patients had higher NYHA class at follow up than CRT-SR patients (SMD-0.434, 95 % CI: 0.074 to 0.794,P=0.018). 6MWD was not different between the groups. CRT did not decrease mortality compared to ICD or medical therapy alone in HF patients with AF and indications for CRT (OR: 0.888, 95 % CI: 0.684 to 1.153, Z=-0.890, P=0.373). AVJA, however, improved all-cause mortality in CRT-AF patients when compared to CRT-AF patients without AVJA (OR:0.485, 95% CI:0.247 to 0.952, P=0.035). With AVJA, there was no difference in all-cause mortality in CRT-AF patients compared to CRT-SR patients (OR:1.131, 95% CI: 0.626 to 2.041, P=0.683). Conclusion: The Results of our meta-analysis suggest that CRT does not beneft patients who are in AF. CRT, however, benefts AF patients with AVJ ablation which ensures consistent and full biventricular capture.

Database: EMBASE

78. Outcomes of catheter ablation for atrial fibrillation in patients with heart failure and reduced ejection fraction: A meta-analysis

Author(s): Khan M.; Sheikh M.; Elgendy A.; Mahmoud A.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: The optimal management for Atrial fibrillation (AF) in the setting of heart failure (HF) with reduced ejection fraction (EF) remains controversial. Recent clinical trials have demonstrated the benefts of catheter ablation (CA) in this subset of patients. Methods: We conducted a meta-analysis of randomized controlled trials (RCT) which randomized patients with AF and HF with reduced EF to CA therapy or medical therapy (rate/rhythm control). A systemic review of medical literature was performed. The primary outcome was all cause mortality and secondary outcomes were readmission, HF hospitalization, stroke, EF improvement, 6-minute walk test (6MWT) and Minnesota living with heart failure questionnaire (MLHFQ). Der-Simonian and Liard models were used to calculate random effects risk ratios (RR) for categorical variables and standardized mean differences (SMD) for continues outcomes. Results: Six trials (N= 1,247) met inclusion criteria. Mean follow-up was 26 months. CA was signifcantly associated with lower incidence of all-cause mortality (RR=0.51, 95 % CI 0.35-0.74, I2 = 0%), readmission (RR= 0.58, 95% CI 0.39-0.83) and HF hospitalization (RR= 0.58, 95% CI 0.41-0.81), with similar incidence of stroke (RR= 0.74, 95% CI 0.32-1.72). EF improvement (SMD = 2.09, 95% CI 0.75-3.43, P < 0.0001), 6MWT (SMD = 0.32, 95% CI 0.09-0.54) and MLHFQ (SMD =-0.38, 95% CI-0.59-[-0.16]) were better with catheter ablation. Post-ablation bleeding was 2.8% (8 cases of pericardial effusion). Conclusion: In patients with AF and coexistent HF with reduced EF, a CA strategy is associated decreased mortality, improved ejection fraction and quality of life. Furthermore, the data suggests low post ablation complications suggesting that serious consideration should be given to AF ablation strategies in this group of patients.

Database: EMBASE

79. Cryoballoon ablation for the treatment of atrial fibrillation: A systematic review and meta-analysis

Author(s): Patel N.; Shenoy A.; Baker W.; Makaryus A.; El-Sherif N.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Ablation therapy is the preferred of choice of therapy in antiarrhythmic drug refractory atrial fibrillation (AF). It is performed by either cryoballoon (CRYO) or radiofrequency (RF) ablation, with CRYO gaining popularity due to its simplicity and similar efficacy with lower complication rate compared to RF ablation. In this meta-analysis, we compare the effectiveness and complication rate from CRYO compared RF ablation in treatment for AF. Methods: We systematically searched MEDLINE for the articles that compared the outcome of interest. The primary outcome was to compare recurrence rate of AF between CRYO and RF ablation and the sub-analysis were performed to evaluate the success rate in different types AF and in randomized controlled trials. The secondary outcome was to measure the procedure and fuoroscopy time as well as the complication rate of pericardial effusion, phrenic nerve palsy and cerebral microemboli following the therapy. Results: A total of 23 studies with 3289 patients met our predefined inclusion criteria. Recurrence of AF after CRYO or RF ablation was similar in both groups (RR: 0.88; 95% CI: 0.75-1.04; I2=52%, Cochrane p=0.01). In subgroup analysis, heterogeneity was less in paroxysmal AF (I2=11%, Cochrane p=0.34) compared to mixed AF (I2=72%, Cochrane p=0.003). A four randomized controlled trials with total inclusion of 1270 patients had no signifcant difference in rate of recurrence AF (RR: 0.91; CI: 0.78-1.06; I2=56%, Cochrane p=0.22). Procedure and fuoroscopy time was less by 25.67 and 7.39 minutes respectively in CRYO compared to RF ablation. Complications rate of pericardial effusion, and silent cerebral microemboli were in-different in both groups, however, phrenic nerve palsy was exclusively evident in CRYO group. Conclusion: This study confrms that the effectiveness of CRYO is similar to RF ablation in the treatment of AF with the added advantages of shorter procedure and fuoroscopy times.

Database: EMBASE

80. Safety and efficacy of non-vitamin k antagonist oral anticoagulants versus warfarin in patients undergoing atrial fibrillation ablation: A meta-analysis of randomized controlled trials

Author(s): Garcia N.T.; Dahal K.; Apte N.; Reddy P.; Dominic P.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Non-Vitamin K Antagonist Oral Anticoagulants (NOACs) are increasingly used in clinical practice for patients with atrial fibrillation (AF) undergoing catheter ablation. Catheter ablation is an established treatment option for patients with AF, however, it is associated with signifcant complications such as ischemic stroke and bleeding. We aimed to compare by meta-analytical techniques, the safety and efficacy of NOACs vs. warfarin. Methods: PUBMED, EMBASE, CENTRAL and Scopus were searched for randomized trials comparing uninterrupted NOACs and warfarin in patients undergoing AF catheter ablation. Ischemic and hemorrhagic stroke, major and minor bleeding, cardiac tamponade and access related complications were compared between the two groups. Results: A total of 4 trials with 1173 patients were included in the meta-analysis. NOACs and warfarin, resulted in similar risk of ischemic stroke [Odds ratio (OR); 0.50; 95% confdence interval (CI): (0.12-2.08); P=0.34), major bleeding [0.33(0.09-1.13); P=0.08] including cardiac tamponade [0.54(0.03-9.05); P=0.67] and minor bleeding [1.13(0.80-1.59); P=0.48], and lower risk of access-related complications [0.56(0.31-1.00); P=0.05)]. Conclusion: The findings of this meta-analysis showed that compared to warfarin, periprocedural anticoagulation with NOACs, result in reduced access-related complications and the incidence of ischemic stroke and bleeding was similar in the two groups.

Database: EMBASE

81. Catheter ablation vesus rate control in atrial fibrillation and heart failure with reduced ejection fraction

Author(s): Dominguez A.C.; Herrera Y.; Gholitabar F.; Lee S.; Lemor A.; Aziz E.; Yue B.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial Fibrillation (AF) and Heart Failure with Reduced Ejection Fraction (HFrEF) impact each other's prognosis negatively. The effect of catheter ablation (CA) of AF in patients with HFrEF when compared to conventional treatment remains controversial. Methods: A meta-analysis of randomized controlled trials (RCTs) was performed to assess the effects of CA of AF in patients with HFrEF. RCTs that compared the use of CA of AF to medical rate control in patients with HFrEF were included. Main outcomes were all-cause mortality, heart failure (HF) hospitalizations, change in LV ejection fraction (LVEF), LV end-systolic volume (LVESV), 6-minute walk test (6MWT), and Minnesota Living with Heart Failure Questionnaire (MLHFQ). Results: Six RCT's (n=745) meet the inclusion criteria. The use of CA was associated with a signifcant decrease in all-cause mortality (RR 0.51; P=0.0007), and hospitalizations due to worsening of HF (RR 0.56; P<0.00001). CA was associated with improvement in LVEF (mean difference [MD] +6.76 mmHg; P<0.01), decrease in the LVESV (MD-16.09, P=0.0002), improvement in 6MWT (MD +12.49, P=0.02), and reduction in MLHFQ score (MD-8.37, P=0.0007). Conclusion: This meta-analysis shows that the use of CA of AF in patients with HFrEF can improve all-cause mortality, HF hospitalizations,LVEF and measures of quality of life compared to medical rate control. This results challenge the current practice guidelines that suggest that rate control is the appropriate strategy in this patients.

Database: EMBASE

82. Safety and efficacy of concomitantly used direct oral anticoagulant and amiodarone in patients with non-valvular atrial fibrillation: A meta-analysis of prospective randomized clinical trials

Author(s): Peltzer B.; Lupercio F.; Romero J.; Gonzalez C.M.; Briceno D.; Villablanca P.; Ferrick K.; Gross J.; Kim S.G.; Fisher J.D.; Biase L.D.; Krumerman A.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: Direct oral anticoagulants (DOACs) and amiodarone are widely used in the treatment of non-valvular atrial fibrillation (NVAF). The DOACs are P-glycoprotein (P-gp) and cytochrome p-450 (CYP3A4) substrates. DOAC levels may be increased by the concomitant use of potent dual P-gp/CYP3A4 inhibitors such as amiodarone, which can potentially affect clinical outcomes. Methods: We performed a systematic review of MEDLINE, Cochrane and Embase limiting our search to randomized controlled trials of patients with NVAF that have compared DOACs vs warfarin for prophylaxis of stroke or systemic embolism (SSE) in order to analyze the impact on SSE, major bleeding and intracranial bleeding (ICB) risk in patients with concomitant use of amiodarone. Risk ratio (RR) 95% confdence intervals were measured using the Mantel-Haenszel method. The fxed effects model was used due to heterogeneity (I2) <25%. Results: Four trials with a total of 71,683 patients were analyzed from which 5% (n= 3,212) of patients were concomitantly on DOAC and amiodarone. We found no statistically signifcant difference for any of the clinical outcomes (SSE (RR, 0.85; 95% CI 0.67-1.06), major bleeding (RR, 0.91; 95% CI 0.77-1.07) or ICB (RR, 1.10; 95% CI 0.68-1.78)) among patients on DOAC and amiodarone versus DOAC without amiodarone. Conclusion: Based on the results of this meta-analysis, co-administration of DOACs and amiodarone, a dual P-gp/CYP3A4 inhibitor, does not appear to affect efficacy or safety outcomes in patients with NVAF.

Database: EMBASE

83. Frequent supraventricular premature complexes as a prediction of atrial fibrillation: Systematic review and meta-analysis

Author(s): Prasitlumkum N.; Rattanawong P.; Limpruttidham N.; Kanitsoraphan C.; Suppakitjanusant P.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: Frequent supraventricular premature complexes (SPVCs) are associated with higher morbidity and mortality. Recent studies suggest that frequent SPVCs is associated with new onset atrial fibrillation (AF). However, a systematic review and meta-analysis of the literature has not been done. We assessed the association between frequent SPVCs and new onset AF by a systematic review and a meta-analysis.

Methods: We comprehensively searched the databases of MEDLINE and EMBASE from inception to September 2017. Included studies were published cohort (prospective or retrospective) and case control studies that compared new onset AF among patients with and without frequent SPVCs documented by holter monitoring or 12-leads electrocardiogram. Data from each study were combined using the random-effects, generic inverse variance method of DerSimonian and Laird to calculate risk ratios and 95% confdence intervals. Results: Eleven studies from 2009 to 2017 were included in this meta-analysis involving 85,231 subjects (5,356 frequent and 79,875 non-frequent SPVCs). Frequent SPVCs were associated with increased risk of new onset AF (pooled risk ratio =2.88, 95% confdence interval: 2.10-3.95, p<0.001, I2=90.4%). Conclusion: Frequent SPVCs are associated with increased risk of new onset AF up to three-fold. Our study suggests that frequent SPVCs in general population is an independent predictor of new onset AF.

Database: EMBASE

84. Associations of sleep duration, insomnia and frequent nocturnal awakening with atrial fibrillation: A meta-analysis

Author(s): Chokesuwattanaskul R.; Thongprayoon C.; Congrete S.; Tanawuttiwat T.; Prechawat S.; Rungpradubvong V.; Cheungpasitporn W.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

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Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: The strong relationship between sleep apnea and atrial fibrillation (AF) is well-known. However, it remains unclear whether sleep duration, and other sleep related factors are related with AF. We performed this meta-analysis to evaluate the associations of sleep duration, insomnia and frequent awakening with AF. Methods: A literature search was performed using MEDLINE, EMBASE, Cochrane databases from inception through September 2017 to identify studies that evaluated the risk of AF in adults with short sleep duration, long sleep duration, insomnia, and/or frequent awakening. Effect estimates from the individual study were combined using random-effect, generic inverse variance method of DerSimonian and Laird. Results: Ten observational studies with a total of 14,296,314 individuals were enrolled. The pooled ORs of AF in individuals with short sleep (<6 hours) and long sleep (>8 hours) were 1.20 (95%CI, 0.93-1.55) and 1.24 (95%CI, 0.96-1.62), respectively. There was no association between increase in sleep duration and AF, with pooled OR of 0.97 (95%CI, 0.84-1.12). However, there were signifcant associations of AF with insomnia and frequent awakening, with a pooled ORs of 1.30 (95%CI, 1.26-1.35) and 1.36 (95%CI, 1.13-1.63), respectively. Conclusion: There is no association between sleep duration and AF. However, insomnia and frequent nocturnal awakening are signifcantly associated with an increased risk of AF.

Database: EMBASE

85. Impact of chronic total occlusion on ventricular arrhythmia and mortality in ischemic cardiomyopathy patient with implantable cardiac defibrillator: A systematic review and meta-analysis

Author(s): Vutthikraivit W.; Klomjit S.; Rattanawong P.; Tantrachoti P.; Pachariyanon P.; Prombandankul A.; Vutthikraivit P.; Ansari M.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Recent studies suggested that chronic total occlusion of the coronary artery increased risk of ventricular arrhythmia (VA) and all-cause mortality in ischemic cardiomyopathy (ICM) patient who underwent implantable cardiac defibrillator (ICD) implantation. We aim to determine adverse events in this population. Methods: We comprehensively searched the databases of MEDLINE and EMBASE from inception to September 2017. The studies that compared adverse events (appropriate shock and all-cause mortality) between patients with and without CTO of the coronary artery who had ICD were included for meta-analysis. Results: Five studies from 2015 to 2017 were included in this meta-analysis involving 1,095 subjects (505 CTO and 590 non-CTO). The presence of CTO was signifcantly associated with increased risk of appropriated shock (pooled risk ratio =1.60, 95% confdence interval: 1.29-1.99, p<0.001, I2=73.2%) and all-cause mortality

(pooled risk ratio =1.65, 95 % confdence interval: 1.22-2.24, p=0.008, I2=35.1%) in ICD implanted ICM patients (fgure 1.1 and 1.2). Conclusion: Presence of CTO of the coronary artery increased risk of appropriate shock following VA and all-cause mortality in ICD implanted ICM patients up to 60 and 71 percent, respectively. Our study suggested that CTO is an independent predictor of unfavorable outcome and must be addressed in ICM patients with ICD.

Database: EMBASE

86. Impact of preoperative atrial fibrillation in patients with left ventricular assist device: A systematic review and meta-analysis

Author(s): Tantrachoti P.; Klomjit S.; Vutthikraivit W.; Rattanawong P.; Pachariyanon P.; Laoveeravat P.; Thavaraputta S.; Nair N.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial fibrillation (AF) is commonly found in candidates of left ventricular assist device (LVAD). A large INTERMACS study suggests that AF may not increase mortality on midterm follow-up (median time 8.5 months; IQR 4.6-13.5 months), while some of the other studies that follow the patients longer show increased mortality. Our study aims to clarify this discrepancy. Methods: We searched the database of MEDLINE and EMBASE from inception to October 2017. The eligible studies report stroke and all-cause mortality in LVAD patients and compare clinical outcomes between AF and non-AF(NAF) patients who received LVAD. Data was analyzed using the random-effects, generic inverse variance method of DerSimonian and Laird. Results: Six retrospective studies from 2013-2017 were included involving 1,549 LVAD patients (AF 603, NAF 946). The follow-up period ranged from 2-4 years. Patients with preoperative AF have signifcantly higher mortality rate compared to NAF patients (pooled risk ratio =1.28, 95 % confdence interval: 1.06-1.54, p=0.009, I2=48.8%) (fgure 1.1). There was no statistically signifcant difference in stroke incidence between the two groups (pooled risk ratio =1.05, 95 % confdence interval: 0.73-1.51, p=0.804, I2=0.0%) (fgure1.2). Conclusion: Our study shows that preoperative AF might be associated with higher mortality rate in the long-term. Future prospective studies are recommended to further validate the result.

Database: EMBASE

87. Catheter ablation versus other strategies for treatment of atrial fibrillation in patients with heart failure with reduced ejection fraction: A meta-analysis on change in ejection fraction

Author(s): Patel N.; Doshi R.; Kalra R.; Bajaj N.; Arora G.; Arora P.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Earlier clinical trials have suggested equivalency of rate versus rhythm control strategies in atrial fibrillation (AF) patients who have heart failure with reduced ejection fraction (HFrEF). Recent randomized controlled trials (RCTs) have suggested improvement in left ventricular ejection fraction (LVEF) after catheter ablation for AF when compared to conventional therapy in HFrEF. We conducted a meta-analysis to assess the impact of catheter ablation on improvement in LVEF in HFrEF patients Methods: The SCOPUS database was used to perform a comprehensive literature search. RCTs reporting change in LVEF in catheter ablation versus other strategies for treatment of AF in patients with HFrEF were included. Our primary outcome was change in LVEF in AF ablation arm vs. comparator arm. Summary estimate and 95% confdence interval (CI) were reported for LVEF as standardized mean difference (SMD) Results: Seven RCTs with a total of 853 patients were identifed. Mean age of our study population was 55 to 64 years with baseline LVEF ranging from 22% to 43%. Median duration of follow-up was from 6 to 60 months (Panel A). Cather ablation strategy had signifcant improvement in LVEF compared with other strategies (SMD; 0.69 95% CI; 0.34, 1.04, p<.001) (Figure, Panel B) Conclusion: Catheter ablation for AF in HFrEF patients causes sustained improvement in LVEF over 12 months thereby underscoring the possibility that rhythm control with ablation can instigate reverse remodeling and recovery of LV function. **Database:** EMBASE

88. Triple versus double oral antithrombotic therapy in patients with atrial fibrillation undergoing percutaneous coronary intervention: A meta-analysis

Author(s): Sun J.; Dong Y.; Wang Y.; Ma R.-L.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: The efficacy and safety of dual antithrombotic therapy (DAPT: dual antiplatelet therapy; WS: Warfarin plus Single antiplatelet) vs. triple antithrombotic therapy (TT: warfarin plus DAPT) are still debated in atrial fibrillation (AF) patients undergoing percutaneous coronary intervention (PCI), and the optimal antithrombotic strategy remains uncertain. Methods: The databases of PubMed, Embase, Cochrane Library, CNKI and WanFang Data were searched to retrieve studies on triple vs. dual antithrombotic therapy in AF patients undergoing PCI until August 2017. The primary endpoints were major adverse cardiac events (MACE) and bleeding events. Results: 24 studies involving 21,425 patients were included. TT reduced the incidence of MACE (RR= 0.85 [0.75-0.97], P = 0.02), but had a greater risk of major bleeding (RR= 1.90 [1.35-2.67], P = 0.0002) and bleeding events (RR= 1.69 [1.35-2.12], P < 0.0001) when compared with DAPT. Identical results were observed in Asian and Non-Asian patients subgroups. However, in CHA2DS2-VASc>=2 subgroups, TT had no signifcant effect on MACE (P = 0.26), but increased bleeding events (P = 0.005) compared with DAPT. Furthermore, the efficacy and safety had no difference in MACE (P = 0.49) and bleeding (P = 0.18) between TT and WS groups. Conclusion: AF patients undergoing PCI who received TT had reduced the risk of MACE, but caused more bleeding events. Although the efficacy was similar between TT and WS groups, the strategy of WS had a slight reduction in bleeding events.

Database: EMBASE

89. Effects of minimizing ventricular pacing on the incidence of atrial fibrillation: A systematic review and meta-analysis of randomized controlled trials

Author(s): Lakhani I.; Gong M.; Wong C.W.; Baranchuk A.; Letsas K.; Liu T.; Tse G.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Right ventricular pacing disrupts the atrioventricular synchrony and increases the risk of atrial fibrillation (AF). However, whether minimizing ventricular pacing algorithms reduce the incidence of AF still remain controversial. Therefore, we conducted a systematic review and meta-analysis to compare the incidence of AF between minimizing ventricular pacing and conventional pacing protocols in patients implanted with pacemakers. Methods: PubMed, Embase and Cochrane Library databases were searched up to 1st August 2017 for randomized controlled trials that reported the incidence of AF in patients with and without minimizing ventricular pacing algorithms. Results: Eleven studies comprising a total of 5705 subjects (61% males, mean age 71+/-11 years old) were finally included in the analysis. The mean follow-up duration was 24 months. Minimizing ventricular pacing signifcantly reduced the incidence of AF with an odds ratio of 0.74 (95% confdence interval: 0.55 to 1.00; P < 0.05). There was moderate heterogeneity among studies (I2: 63%). Conclusion: The incidence of AF was reduced by 26% using minimizing ventricular pacing algorithms, an event that possibly affect the long-term prognosis of these patients.

Database: EMBASE

90. New-onset atrial fibrillation is associated with increased mortality in critically ill patients: A systematic review and meta-analysis

Author(s): Kanjanahattakij N.; Rattanawong P.; Krishnamoorthy P.; Horn B.; Chongsathidkiet P.; Garvia V.; Prapaipan P.; Sirinvaravong N.; Figueredo V.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial fibrillation is one of the most common comorbid conditions in critically ill patients requiring intensive care unit (ICU) admission. Studies have suggested an association between new-onset atrial fibrillation (AF) and adverse outcomes in critically ill patients. However, there are no meta-analyses to confrm this association. Methods: Studies were systematically searched from MEDLINE and EMBASE electronic databases. Studies that examined the relationship between new-onset AF and adverse outcomes, including hospital mortality in ICU patients were included. Studies that included patients with prior AF were excluded. Pooled effect size was calculated with a random-effect model, weighted for the inverse of variance, to determine an association between new-onset AF and in-hospital mortality. Heterogeneity was assessed with I2. Results: Twelve studies were included. Pooled analysis ([Figure Presented]) showed statistically signifcant difference in the rate of hospital-mortality between patients with and without new-onset AF (OR 2.70; 95% CI 2.43-3.00). Subgroup analysis of only patients with sepsis or septic shock showed a signifcant association between new-onset AF and in-hospital mortality (OR 2.32; 95% CI 1.88-2.87). No signifcant heterogeneity was observed (I2 = 0%) in both analyses. Conclusion: New-onset atrial fibrillation is associated with worse outcomes in critically ill patients. Further studies should be done to evaluate for causality and preventive measures.

Database: EMBASE

91. Meta analysis of risk factors for post-operative atrial fibrillation

Author(s): Yamashita K.; Ranjan R.; Selzman C.; Nan H.; Dosdall D.J.

Source: Journal of the American College of Cardiology; Mar 2018; vol. 71 (no. 11)

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Available at Journal of the American College of Cardiology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Background: Atrial fibrillation (AF) is a common arrhythmia following cardiac surgery and is associated with increased healthcare costs, complications, and mortality. The etiology of Post-operative Atrial Fibrillation (POAF) is incompletely understood and its prediction remains suboptimal. Our purpose is to Identify of risk factors contributing to POAF is useful for detecting high-risk patients. Methods: A systematic search of PubMed, MEDLINE, and EMBASE was performed. Twenty four studies about POAF prediction, published from 2001 to May 2017, were included in this analysis with a total of 36,834 subjects. Data were pooled using univariable analysis as hazard ratios (HRs) or odds ratios (ORs) with 95% confdence intervals (CIs). Twenty-four trials were carried out in the USA and Europe and 16 studies were prospective cohort studies. Results: The standardized mean difference (SMD) between POAF and Non-POAF groups was signifcantly different (reported as SMD: 95% CI) for age (0.55: 0.47 to 0.63), left atrial diameter (0.45: 0.15 to 0.75), and LV ejection fraction (0.30: 0.14 to 0.47). The pooled odds ratios (reported as OR: 95% CI) demonstrated that heart failure (1.56: 1.31 to 1.96), chronic obstructive pulmonary disease (1.36: 1.13 to 1.64), hypertension (1.29: 1.12 to 1.48), and myocardial infarction (1.18: 1.05 to 1.34) were signifcant predictors of POAF incidence, while diabetes was marginally signifcant (1.06: 1.00 to 1.13). Conclusion: The present analysis suggested that older age, larger LAd, lower EF, hypertension, COPD, and HF were signifcant risk factors for POAF.

Database: EMBASE

92. Detection and management of atrial fibrillation after cryptogenic stroke or embolic stroke of undetermined source

Author(s): Sanna T.; Crea F.; Ziegler P.D.

Source: Clinical Cardiology; Mar 2018; vol. 41 (no. 3); p. 426-432

Publication Date: Mar 2018

Publication Type(s): Review

Available at Clinical Cardiology - from Wiley Online Library Free Content - NHS

Available at Clinical Cardiology - from IngentaConnect - Open Access

Abstract: Cryptogenic stroke (CS) and embolic stroke of unknown source (ESUS) represent a major challenge to healthcare systems worldwide. Atrial fibrillation (AF) is commonly found after CS or ESUS. Independent of the mechanism of the index CS or ESUS, detection of AF in these patients offers the opportunity to reduce the risk of stroke recurrence by prescribing an anticoagulant instead of aspirin. The detection of AF may be pursued with different monitoring strategies. Comparison of monitoring strategies should take into account that AF detection rates reported in published studies, and then pooled in meta-analyses, are not only a function of the monitoring strategy itself, but also depend on patient-related, device-related, and study design-related factors. Once AF is found, the decision to anticoagulate a patient should be made on the basis of AF burden and the baseline risk of the patient. Empirical anticoagulation in patients with ESUS and no evidence of AF is an intriguing but still-unproven strategy and therefore should not be adopted outside of randomized clinical trials.

Database: EMBASE

93. Uninterrupted Direct Oral Anticoagulant therapy is an efficacious and safer alternative to Vitamin K Antagonists in patients undergoing catheter ablation for atrial fibrillation. A meta-analysis

Author(s): Ottoffy M.; Habon T.; Matrai P.; Hegyi P.

Source: Europace; Mar 2018; vol. 20

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Introduction: Adequate anticoagulation in catheter ablation of atrial fibrillation is crucial in preventing both thromboembolic events and life-threatening bleeding. In the treatment of non-valvular atrial fibrillation Direct Oral Anticoagulants (DOACs) have been recommended in preference to a Vitamin K Antagonist (VKA) by latest guidelines. Based on clinical evidence 2017 Expert Opinion stated that uninterrupted DOAC or VKA should be given, with identical preferences. The purpose of this metaanalysis was to assess the latest evidence to compare VKAs to DOAC therapy for anticoagulation in catheter ablation for atrial fibrillation. Methods: Studies comparing DOACs to VKAs were identified on multiple databases (Embase, PubMed, Cochrane, and Scopus) using an electronic search. Interrupted and uninterrupted DOAC therapies were distinguished, VKA therapy was always uninterrupted. To pool the study-specific odds ratios (OR) the Peto method was used as it is the one recommended for the meta-analysis of rare events. Statistical heterogeneity was analysed by the I2 statistic and the chi-square test to gain probability-values; $p<0.05$ was defined to indicate significant heterogeneity. Results: 34 studies were included in the final analysis, encompassing a total of 18,644 patients. Regarding stroke and TIA occurrence there was no significant difference between DOACs and VKAs (OR: 0.87, CI: 0.41-1.88). Comparing major bleeding rates between DOACs versus VKAs showed a significant difference favoring the uninterrupted DOAC therapy (OR: 0.36, CI: 0.20-0.64), interrupted DOAC therapy showed no significant difference (OR: 0.93, CI: 0.61-1.43). Interrupted DOAC therapy showed a significant reduction in the rate of minor bleeding (OR: 0.73, CI: 0.55-0.97), no significance was observed with uninterrupted DOACs (OR: 0.88, CI: 0.70-1.09). Composite analysis of major bleeding and stroke/TIA showed a significant net benefit of uninterrupted DOACs over VKAs (OR: 0.36, CI: 0.21-0.62). Conclusion: The risk of thromboembolic events is very-low during the periprocedural period of catheter ablation with well managed anticoagulation, regardless of the drug of choice. Uninterrupted anticoagulation strategy is safe and preferable. Our metaanalysis showed that DOAC therapy is non-inferior to VKAs in preventing stroke and TIA, however, uninterrupted DOAC therapy showed superiority when compared to uninterrupted VKAs regarding major, life-threatening bleeding. Based on our data, uninterrupted periprocedural DOAC therapy is a safe and preferable alternative to VKAs in patients undergoing catheter ablation for atrial fibrillation. The results of ongoing DOAC trials in this field can confirm our findings.

Database: EMBASE

94. Restoration of sinus rhythm improves exercise capacity in patients with persistent atrial fibrillation: A meta-analysis

Author(s): Verdicchio C.; Elliott A.; Wijaithum P.; Lau D.; Sanders P.; Mahajan R.

Source: Europace; Mar 2018; vol. 20

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in the world and is directly associated with an increased risk of stroke, heart failure and mortality. Patients with AF

commonly experience a broad range of symptoms including palpitations, shortness of breath, dizziness, fatigue and a decreased quality of life. Reduced exercise tolerance is another commonly reported symptom of AF. Purpose: This meta-analysis assesses the changes in exercise capacity in patients with persistent AF on restoration of sinus rhythm (SR). Methods: MEDLINE/EMBASE/COCHRANE were searched for studies reporting changes to exercise capacity following restoration of SR via cardioversion or catheter ablation in patients with persistent AF. From the search 618 articles were identified. After exclusions, 13 studies reporting changes in exercise capacity with or without the restoration of SR were selected. Data was analyzed by a random-effects metaanalysis. Results: Thirteen studies (1,643 individuals with persistent AF, 6063 years) analyzed change in exercise capacity parameters using oxygen uptake, METs, duration and 6MWT. Exercise capacity significantly improved following successful restoration of SR compared to those who remained in AF (Standardized Mean Difference: 1.91, 95% CI 1.19-2.63, p<0.001, I2=97%). Both treatment modes significantly favor improvements in exercise capacity in SR with moderate effect size with ablation (n=3) (SMD: 0.98, 95% CI 0.03-1.92) over 2462 weeks and large effect size with cardioversion (n=10) (SMD 2.19, 95% CI 1.30-3.09) over 20624 weeks. There were significant increases in mean differences across all exercise parameters in SR oxygen uptake (5ml/kg/min, 95% CI 4.09-5.79), METs (3.2, 95% CI 2.5-3.87), duration (73secs, 95% CI 38.85-106.59) and 6MWT (55.15m, 95% CI 45.37-64.93). Conclusion: Successful restoration of SR results in an objective improvement in exercise capacity and may allow AF patients to engage in more active lifestyles and enhance quality of life.

Database: EMBASE

95. Non-vitamin k antagonist oral anticoagulants in high risk-subgroups with atrial fibrillation: Systematic review and meta-analysis

Author(s): Kim I.-S.; Kim T.H.; Uhm J.S.; Joung B.; Lee M.H.; Pak H.N.; Kim H.J.

Source: Europace; Mar 2018; vol. 20

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background: We evaluated the dose dependent efficacy and safety of non-vitamin K antagonist oral anticoagulants (NOACs) in atrial fibrillation (AF) patients with high risk subgroups, such as elderly (over 75-years), OAC-Nai?ve, and 2ndary stroke prevention purpose. Methods: After a systematic database search (Medline, EMBASE, CENTRAL, SCOPUS, and Web of Science), five phase III randomized trials comparing NOACs and warfarin according to high risk subgroups were included. Outcomes were pooled with random-effects model as relative risk (RR) including stroke/systemic thromboembolism (SSTE), major bleeding, intracranial hemorrhage, and all-cause mortality. Results: 1. For elderly patients (aged-75), standard-dose NOAC showed better efficacy (RR 0.78 [0.69-0.90], p<0.001, I2=12%) and equivalent safety compared to warfarin even in those with moderately impaired renal function. All-cause mortality was lower with standard-dose NOACs compared to warfarin in elderly patient group (RR 0.93 [0.86-1.00], p=0.04, I2=0%). 2. In OAC-Nai?ve patients, standard-dose NOAC showed superior efficacy and safety with mortality benefit (RR 0.90 [0.84-0.97], I2=0%) compared to warfarin. 3. For 2ndary stroke prevention purpose, standard-dose NOAC was superior in SSTE prevention (RR 0.86 [0.76-0.98], I2=0%), but, low-dose NOAC reduced major bleeding risk and all-cause mortality (RR 0.76 [0.66-0.88], I2=0%) compared to warfarin. Conclusion: In patients with high risk subgroup non-valvular AF, standard-dose NOAC showed significantly lower all-cause mortality compared to warfarin for elderly patients over 75-years and OAC-Nai?ve. In contrast, for 2ndary stroke prevention purpose, allcause mortality was significantly lower with low-dose NOAC compared to warfarin.

Database: EMBASE

96. Can dexmedetomidine reduce atrial fibrillation after cardiac surgery? A systematic review and meta-analysis

Author(s): Zhu Z.; Zhou H.; Ni Y.; Wu C.; Zhang C.; Ling X.

Source: Drug Design, Development and Therapy; Mar 2018; vol. 12 ; p. 521-531

Publication Date: Mar 2018

Publication Type(s): Review

Available at Drug Design, Development and Therapy - from Europe PubMed Central - Open Access

Available at Drug Design, Development and Therapy - from EBSCO (MEDLINE Complete)

Available at Drug Design, Development and Therapy - from PubMed Central

Abstract: Purpose: Cardiac surgery patients always present with atrial fibrillation (AF) after admission to the intensive care unit, leading to high mortality and lengthy hospitalization. Dexmedetomidine (DEX) is a popular medication used for sedation in the intensive care unit; however, whether it can reduce AF needs to be analyzed. Materials and methods: Three primary databases, Medline, Embase (Ovid SP) and the Cochrane Central Register of Controlled Trials (CENTRAL), were searched. All English language and randomized control designed clinical publications comparing DEX to control medicines for sedation after elective cardiac surgery were included. Two independent colleagues conducted the data extraction and quality assessments. The subgroup analysis was performed according to the medicine used, age, AF history, and whether previous beta-blocker premedication and cardiopulmonary bypass (CPB) were applied. The overall incidence of AF was analyzed. Results: A total of 1,295 patients in nine studies met the selection criteria among 2,587 studies screened from the database. After quantitative synthesis, our results revealed that the DEX group was not associated with a decreased incidence of AF compared with the placebo (risk ratio [RR] 0.76, 95% CI 0.37, 1.55, P=0.44) and morphine groups (RR 0.86, 95% CI 0.56, 1.31, P=0.48). Subgroup analysis also indicated that the DEX vs propofol comparison exhibited no difference: 1) for patients of age >60 years (P=0.69) or <=60 years (P=0.69); 2) under CPB surgery (P=0.45) or without CPB surgery (P=0.88); 3) with beta-blocker premedication (P=0.32) or without beta-blocker premedication (P=0.90); and 4) with AF history (RR 1.07, 95% CI 0.85, 1.36, P=0.57) or without AF history (P=0.30). Conclusion: This meta-analysis revealed that DEX could not reduce the incidence of AF compared to control medicines following cardiac surgery. DEX may have an increased influence on AF occurrence if patients had a history of AF. However, cautious interpretation should be made due to high clinical heterogeneity.

Database: EMBASE

97. Management of newly diagnosed atrial fibrillation in an outpatient clinic setting-patient's perspectives and experiences.

Author(s): Thrysoee, Lars; Strömberg, Anna; Brandes, Axel; Hendriks, Jeroen M

Source: Journal of clinical nursing; Feb 2018; vol. 27 (no. 3-4); p. 601-611

Publication Date: Feb 2018

Publication Type(s): Journal Article

PubMedID: 28677250

Abstract:AIMS AND OBJECTIVESTo gain in-depth knowledge of patients' experiences of the consultation processes at a multidisciplinary atrial fibrillation outpatient clinic in a university hospital in Denmark.BACKGROUNDAtrial fibrillation is the most common cardiac arrhythmia associated with morbidity and mortality if not diagnosed and treated as recommended. Patients with newly diagnosed atrial fibrillation preferably should be managed in an outpatient setting which includes medical examination, patient education and decision-making on medical therapy.DESIGNThis is a qualitative study of 14 patients newly diagnosed with atrial fibrillation, ranging from asymptomatic patients, to those with mild to severe symptoms; they were all referred from general practitioners.METHODSData were generated in 2013-2015 using participant observation during each consultation, followed by individual interviews postconsultation.RESULTSPatients were referred with limited information on AF and knowledge about the management consultation procedures. The consultations were performed in a professional way by the cardiologist as well as by the nurses with an emphasis on the medical aspects of atrial fibrillation. The understanding that atrial fibrillation is not a fatal disease in itself was very important for patients. At the same time, visiting the clinic was overwhelming, information was difficult to understand, and patients found it difficult to be involved in decision-making.CONCLUSIONSThis study indicates that patients were uncertain on what AF was before as well as after their consultation. The communication was concentrated on the medical aspects of atrial fibrillation and visiting the clinic was an overwhelming experience for the patients. They had difficulty understanding what atrial fibrillation was, why they were treated with anticoagulation, and that anticoagulating was a lifelong treatment.RELEVANCE FOR CLINICAL PRACTICEThis study demonstrates some lack of patient-centred care and an absence of tailored patient AF-related education. Furthermore, the study highlights the need for and importance of active patient involvement.

Database: Medline

98. Understanding how patients use visualization during ablation of atrial fibrillation in reducing their experience of pain, anxiety, consumption of pain medication and procedure length: Integrating quantitative and qualitative results.

Author(s): Nørgaard, Marianne W; Pedersen, Preben U; Bjerrum, Merete

Source: Applied nursing research : ANR; Feb 2018; vol. 39 ; p. 229-240

Publication Date: Feb 2018

Publication Type(s): Journal Article

PubMedID: 29422164

Abstract:BACKGROUNDPatients who undergo radiofrequency ablation of atrial fibrillation with a light conscious sedation often feel pain during the procedure which can be difficult to relieve with pharmacological pain treatment alone. In a quasi-experimental study, it was found that visualization together with usual pain medication reduced the amount of analgesics used. In addition, patients spontaneously expressed pain significantly fewer times outside the scheduled measurements. No difference was found in the perception of pain intensity or anxiety and procedure length in the study. In a subsequent qualitative study with patients from the intervention group in the quantitative study, patients reported visualization as a positive experience which helped them manage pain and anxiety by supporting their individual strategies and without inconvenience.AIMTo examine patients' experiences with the effect of visualization during ablation of atrial fibrillation and its association with pain intensity, anxiety, pain medication and procedure length.METHODSA mixed-method study with explanatory sequential design including a quasi-experimental study with a control and an intervention group and a qualitative interview study with semi-structured interviews. The results from the two studies in the mixed method study have been integrated by merging and constructing follow-up joint displays.RESULTSThree themes were identified from the integration of the results from the quantitative and qualitative studies when analyzing and interpreting the results: "Zero pain is not always the goal"; "Not a real procedure time reduction but a sense of time shrinkage" and "Importance of the nurse's presence, visualization or not".CONCLUSIONVisualization can help patients to manage procedural pain when going through ablation of atrial fibrillation but the effect of an intervention such as visualization cannot be measured by pain intensity because the effect of visualization helps patients to cope with the pain and not to reduce the experience of pain intensity. It was shown that the patients had a feeling of reduced procedure time, although it was not reduced statistically significantly by using visualization. Finally, patients did not feel high anxiety during the procedure which was in line with very low values of anxiety measured in the quantitative study but at the same time the presence of the staff was of great importance to them in providing a feeling of security. A reduction of analgesics as found in the study is not only a matter of safety, it is also important in the patient's perception.

Database: Medline

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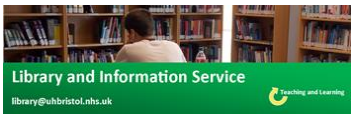
May 22 2018, Volume 137, Issue 21

European Heart Journal

May 21 2018, Volume 39, Issue 20



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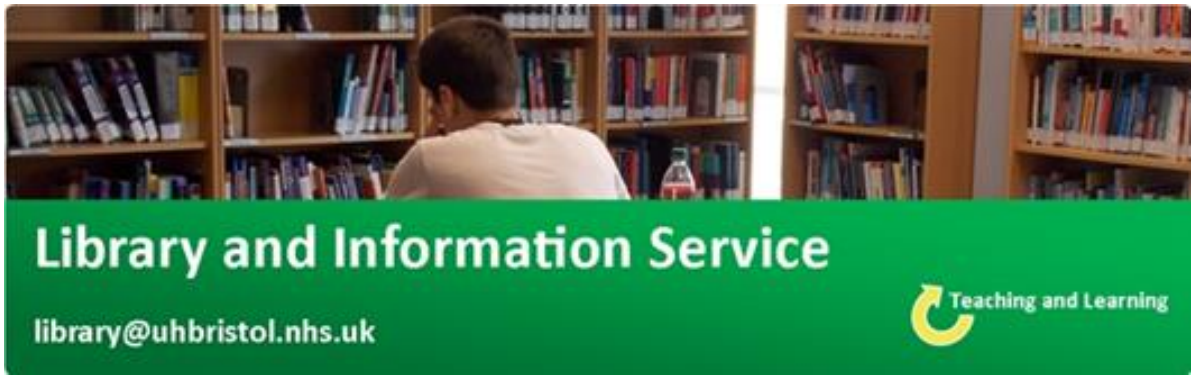

Library Opening Times

Staffed hours: 8am-5pm, Monday to Friday

Swipe-card access: 7am-11pm, seven days a week

Level 5, Education and Research Centre

University Hospitals Bristol

Contact your Outreach Librarian:

Sarah Barrett

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