

Rheumatology

Evidence Update

March 2018 (Quarterly)




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 Teaching and Learning

Training Sessions 2018

April (12.00-13.00)

- 5th (Thu) Literature Searching
- 9th (Mon) Critical Appraisal
- 17th (Tue) Statistics
- 25th (Wed) Literature Searching

May (13.00-14.00)

- 3rd (Thu) Critical Appraisal
- 11th (Fri) Statistics
- 14th (Mon) Literature Searching
- 22nd (Tue) Critical Appraisal
- 30th (Wed) Statistics

Your Outreach Librarian – Jo Hooper

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Departmental News

News, Research, Conferences, Training etc

Please contact us with any departmental news you wish to share here with your colleagues in your Evidence Update bulletin.

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Updates

NICE National Institute for
Health and Care Excellence

[Ixekizumab meets primary and secondary endpoints in COAST-V phase III ankylosing spondylitis \(AS\) trial](#)

13 February 2018 - Publisher: Biospace Inc. [UKMi comment](#)

[Golimumab for treating non-radiographic axial spondyloarthritis - guidance \(TA497\)](#) 

Source: [National Institute for Health and Care Excellence - NICE](#) - 10 January 2018

[Read Summary](#)- [UKMi comment](#)

[Rheumatoid arthritis](#)  Source: [Clinical Knowledge Summaries](#) - 28 February 2018

[Revised SPC: Remicade \(infliximab\) 100mg infusion](#)

Source: [electronic Medicines Compendium - eMC](#) - 15 March 2018 - Publisher: electronic Medicines compendium [Read Summary](#)

[Content analysis of Twitter in relation to biological treatments for chronic inflammatory arthropathies: an exploratory study](#)

Source: [Medicines Management Collection](#) - 24 January 2018 - Publisher: European Journal Of Hospital Pharmacy [Read Summary](#)

[NIHR Signal: Stopping biological drugs for rheumatoid arthritis can lead to twice the relapse rate](#) 24 January 2018 - Publisher: National Institute for Health Research Signal [Read Summary](#)

[The efficacy of probiotic supplementation in rheumatoid arthritis: a meta-analysis of randomized, controlled trials](#) Source: [PubMed](#) - 04 January 2018

Publisher: Inflammopharmacology [Read Summary](#)

[Performance of the 2012 systemic lupus international collaborating clinics classification criteria versus the 1997 American College of Rheumatology Classification Criteria in adult and juvenile systemic lupus Erythematosus. A systematic review and meta-analysis](#)

Source: [PubMed](#) - 21 January 2018 - Publisher: Autoimmunity Reviews [Read Summary](#)

[Sarilumab: Review of a Second IL-6 Receptor Antagonist Indicated for the Treatment of Rheumatoid Arthritis](#) Source: [PubMed](#) - 01 February 2018 - Publisher: The Annals Of Pharmacotherapy [Read Summary](#)

[Physical articular examination in the activity of rheumatoid arthritis: a systematic review of the literature : Systematic review of the literature regarding physical examination in rheumatoid arthritis](#)

Source: [PubMed](#) - 20 February 2018 - Publisher: Clinical Rheumatology [Read Summary](#)

[Do out-of-pocket costs affect medication adherence in adults with rheumatoid arthritis? A systematic review](#) Source: [PubMed](#) - 08 January 2018 - Publisher: Seminars In Arthritis And Rheumatism [Read Summary](#)

[Effects of glucosamine supplements on painful temporomandibular joint osteoarthritis: a systematic review](#) Source: [PubMed](#) - 15 February 2018 - Publisher: Journal Of Oral

Rehabilitation [Read Summary](#)

[The effectiveness of physical therapies for patients with base of thumb osteoarthritis: Systematic review and meta-analysis](#) Source: [PubMed](#) - 21 February 2018 - Publisher: Musculoskeletal Science & Practice [Read Summary](#)

[Osteoarthritis year in review 2017: rehabilitation and outcomes](#) Source: [PubMed](#) - 09 January 2018 - Publisher: Osteoarthritis And Cartilage [Read Summary](#)

[Meta-analysis of serum C-reactive protein and cartilage oligomeric matrix protein levels as biomarkers for clinical knee osteoarthritis](#) Source: [PubMed](#) - 19 January 2018 - Publisher: BMC Musculoskeletal Disorders [Read Summary](#)

[Efficacy and safety of repeated courses of hyaluronic acid injections for knee osteoarthritis: A systematic review](#) Source: [PubMed](#) - 31 January 2018 - Publisher: Seminars In Arthritis And Rheumatism [Read Summary](#)

[Hydroxychloroquine Effectiveness in Reducing Symptoms of Hand Osteoarthritis: A Randomized Trial](#) 20 February 2018 - Publisher: Annals of Internal Medicine [Read Summary](#)

[Intra-articular Injection of Mesenchymal Stem Cells in Treating Knee Osteoarthritis: a Systematic Review of Animal Studies](#) Source: [PubMed](#) - 07 February 2018 - Publisher: Osteoarthritis And Cartilage [Read Summary](#)

[Relative efficacy and safety of topical non-steroidal anti-inflammatory drugs for osteoarthritis: a systematic review and network meta-analysis of randomised controlled trials and observational studies](#) Source: [PubMed](#) - 07 February 2018 - Publisher: British Journal Of Sports Medicine [Read Summary](#)

[Comparative Effectiveness of Oral Pharmacologic Interventions for Knee Osteoarthritis: A Network Meta-analysis](#) Source: [PubMed](#) - 12 February 2018 - Publisher: Modern Rheumatology [Read Summary](#)



No new relevant evidence

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[Diagnosis and differential diagnosis of axial spondyloarthritis \(ankylosing spondylitis and nonradiographic axial spondyloarthritis\) in adults](#)

Literature review current through: Feb 2018. | **This topic last updated:** Mar 22, 2018.

[Management of knee osteoarthritis](#)

Literature review current through: Feb 2018. | **This topic last updated:** Jan 04, 2018.

[Pathogenesis of osteoarthritis](#)

Literature review current through: Feb 2018. | **This topic last updated:** Feb 02, 2018.

[Management of moderate to severe knee osteoarthritis](#)

Literature review current through: Feb 2018. | **This topic last updated:** Jan 04, 2018.



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March 7th: **Canteen (Level 9, BRI) 12.00-14.00**

March 19th: **Welcome Centre, BRI 10.00-16.00**

April 4th: **Foyer, Education Centre 12.00-14.00**

April 11th: **Foyer, St Michael's Hospital 12.00-14.00**

May 2nd: **Canteen (Level 9, BRI) 12.00-14.00**

June 6th: **Terrace (Level 4, Education Centre) 12.00-14.00**

June 19th: **Welcome Centre, BRI 10.00-16.00**

July 3rd: **Welcome Centre, BRI 10.00-16.00**

July 4th: **Canteen (Level 9, BRI) 12.00-14.00**

August 8th: **Foyer, Education Centre 12.00-14.00**

August 29th: **Foyer, St Michael's Hospital 12.00-14.00**

September 5th: **Canteen (Level 9, BRI) 12.00-14.00**

September 11th: **Welcome Centre, BRI 10.00-16.00**

October 3rd: **Terrace (Level 4, Education Centre) 12.00-14.00**

November 7th: **Canteen (Level 9, BRI) 12.00-14.00**

December 5th: **Foyer, Education Centre 12.00-14.00**

December 11th: **Welcome Centre, BRI 10.00-16.00**

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:

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Biologic Therapies

Management of rheumatoid arthritis

Author(s): Kiely P.D.W.; Nikiphorou E.

Source: Medicine (United Kingdom); 2018

Publication Type(s): Article In Press

Abstract:Successful management of rheumatoid arthritis (RA) requires suppression of the autoimmune response, which results in synovial inflammation, cartilage and bone damage and is associated with a range of extra-articular manifestations including accelerated atherogenesis, cancer and sepsis. The strategy to achieve this is called 'treat-to-target' and requires frequent patient review to escalate therapy until remission or at least low disease activity is achieved. Numerous therapeutic agents are licensed to achieve this, starting with glucocorticoids and conventional synthetic disease-modifying antirheumatic drugs (DMARDs) such as methotrexate, followed by four different mode of action biologic DMARDs (targeting tumour necrosis factor, interleukin-6, B cells and T cell co-stimulation) and targeted synthetic DMARDs (inhibitors of JAK). For newly diagnosed patients, especially if treated within 3 months of onset, the outlook is immeasurably better than two decades ago before the treat-to-target strategy and biologic therapies were introduced. As a consequence the outcomes for many newly diagnosed patients include preserved function, maintained quality of life and no impact on mortality. For patients with long-standing disease, further joint damage can be prevented and severe complications of RA such as vasculitis and amyloidosis are now a rarity. Nonetheless RA is an aggressive destructive disease and its tendency to relapse requires disease-long patient review and treatment optimization to maintain control. Copyright © 2018.

Biologics registers in rheumatoid arthritis

Author(s): Davies R.; Hyrich K.L.

Source: Medicine (United Kingdom); 2018

Publication Type(s): Article In Press

Abstract:The introduction of biologic therapies has resulted in improved outcomes in patients with rheumatoid arthritis (RA), although there are concerns about the long-term safety of these drugs, specifically relating to lymphoma and serious infection. Biologics registers have been established worldwide to investigate the long-term safety and effectiveness of biologic drugs in inflammatory conditions such as RA. To date, publications from biologics registers have focused mainly on anti-tumour necrosis factor (TNF) therapy, although reports of outcomes after other biologic classes, such as anti-interleukin-6 and anti-CD20 therapies, are increasing. The reports show that, in general, biologic therapies are effective in treatment of RA. However, registry data have shown that anti-TNF agents and rituximab are also associated with higher rates of serious infection. Lymphoma risk does not appear to increase in patients on anti-TNF therapy up to 5 years compared with patients given conventional synthetic disease-modifying anti-rheumatic drugs, but limited follow-up and numbers

of patients taking other classes of biologic agents mean that lymphoma risk calculations are not yet available for those classes. Moving forward, biologics registers will continue to capture long-term follow-up of biologic therapies in RA, as well as to incorporate new classes of biologics and other advanced therapies, such as the new kinase inhibitors. Furthermore, the introduction of biosimilars will require further evaluation of safety and effectiveness. This will extend our knowledge of the long-term safety and effectiveness of biologic drugs when used in 'real-life' situations and across conditions. Copyright © 2018.

Analyse cout-efficacite des strategies utilisant les nouveaux tests diagnostiques immunologiques dans le depistage de la tuberculose latente avant traitement par anti-TNFCost-effectiveness analysis of strategies using new immunological diagnostic tests of latent tuberculosis infection before TNF-blockers therapy

Author(s): Freund R.; Granger B.; Fautrel B.; Francois C.; Carcelain G.; Ravaud P.; Mariette X.

Source: Presse Medicale; 2018

Publication Type(s): Article In Press

Abstract: Several tests have been proposed to detect latent tuberculosis (LTB). Objective: To evaluate the cost-effectiveness of different interferon-gamma release assays based strategies used to screen LTB before tumour necrosis factor (TNF) blockers initiation. Methods: Consecutive patients with rheumatoid arthritis, spondyloarthritis or Crohn's disease for whom TNF-blockers were considered, were recruited in 15 tertiary care centres. All were screened for LTB with tuberculin skin test (TST), QuantiFERON TB Gold in tube (QFT) and T-SPOT.TB (TSpot) on the same day. Cost-minimization and cost-effectiveness analysis, testing 8 screening test combinations, were conducted. Effectiveness was defined as the percentage of LTB treatment avoided and compared with TST alone. Cost were elicited in the payer perspective, included all the costs related to the screening procedure. Results: No tuberculosis reactivation was observed after TNF-blocker initiation. TST followed by QFT if TST was positive was found as the best screening strategy, i.e. the less costly (-54 compared to reference) and most effective (effectiveness 0.93), resulting in an incremental cost-effectiveness ratio of -192 per treatment avoided. A probabilistic sensitivity analysis confirmed this result in 72.3% of simulations. Conclusion: TST followed by QFT if TST was positive is the most cost-effective strategy in screening for LTB in patients before starting anti-TNF therapy. TrialRegNo: NCT00811343. Copyright © 2018 Elsevier Masson SAS

High Levels of DEK Autoantibodies in Sera of Patients With Polyarticular Juvenile Idiopathic Arthritis and With Early Disease Flares Following Cessation of Anti-Tumor Necrosis Factor Therapy

Author(s): Mor-Vaknin N.; Rivas M.; Legendre M.; Mohan S.; Yuanfan Y.; Mau T.; Zhao L.; Adams B.S. Passo M.H.; Beukelman T.; Mehta J.

Source: Arthritis and Rheumatology; 2018

Publication Type(s): Article In Press

Abstract: Objective: The nuclear oncoprotein DEK is an autoantigen associated with juvenile idiopathic arthritis (JIA), especially the oligoarticular subtype. DEK is a secreted chemotactic factor. Abundant levels of DEK and DEK autoantibodies are found in inflamed synovium in JIA. We undertook this study to further characterize the nature of DEK autoantibodies in screening serum samples from 2 different cohorts that consisted mostly of patients with JIA. Methods: DEK autoantibody levels were analyzed in sera from 33 JIA patients, 13 patients with other inflammatory conditions, and 11 healthy controls, as well as in 89 serum samples from JIA patients receiving anti-tumor necrosis factor (anti-TNF) therapy. Recombinant His-tagged full-length DEK protein (1-375 amino acids [aa]) and the 187-375-aa and 1-350-aa His-tagged DEK fragments made in a baculovirus system were used for enzyme-linked immunosorbent assay (ELISA) and immunoblotting. The C-terminal 25-aa fragment of DEK was expressed in a glutathione S-transferase-tagged vector. ELISA results were calculated as area under the curve by the trapezoidal rule. Results: DEK autoantibody

levels were significantly higher in patients with polyarticular JIA than in those with oligoarticular JIA, and were higher in patients with polyarticular JIA who had more active disease after cessation of anti-TNF therapy. Immunoblotting against the C-terminal 25-aa fragment of DEK confirmed that this section of the DEK molecule is the most immunogenic domain. Conclusion: DEK autoantibody levels are higher in patients with polyarticular JIA than in those with oligoarticular JIA, and higher in patients who have disease flares after cessation of anti-TNF therapy. The C-terminal 25-aa fragment is the most immunogenic portion of DEK. These findings are significant with respect to the nature of DEK autoantibodies, their contribution to JIA pathogenesis, and their implications for JIA management. Copyright © 2018 American College of Rheumatology.

Treatment of rheumatoid arthritis with biologic agents lowers the risk of incident chronic kidney disease

Author(s): Sumida K.; Molnar M.Z.; Potukuchi P.K.; Hassan F.; Kovesdy C.P.; Yamagata K.; Thomas F.;

Source: Kidney International; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract: Rheumatoid arthritis is associated with reduced kidney function, possibly due to chronic inflammation or the use of nephrotoxic therapies. However, little is known about the effects of using the newer novel non-nephrotoxic biologic agents on the risk of incident chronic kidney disease (CKD). To study this we used a cohort of 20,757 United States veterans diagnosed with rheumatoid arthritis with an estimated glomerular filtration rate (eGFR) of 60 mL/min/1.73m² or more, recruited between October 2004 and September 2006, and followed through 2013. The associations of biologic use with incident CKD (eGFR under 60 with a decrease of at least 25% from baseline, and eGFR under 45 mL/min/1.73m²) and change in eGFR (<-3, -3 to <0 [reference], and ≥0 mL/min/1.73m²/year) were examined in propensity-matched patients based on their likelihood to initiate biologic treatment, using Cox models and multinomial logistic regression models, respectively. Among 20,757 patients, 4,617 started biologic therapy. In the propensity-matched cohort, patients treated (versus not treated) with biologic agents had a lower risk of incident CKD (hazard ratios 0.95, 95% confidence interval [0.82-1.10] and 0.71 [0.53-0.94] for decrease in eGFR under 60 and under 45 mL/min/1.73m², respectively) and progressive eGFR decline (multinomial odds ratios [95% CI] for eGFR slopes <-3 and ≥0 [versus -3 to <0] mL/min/1.73m²/year, 0.67 [0.58-0.79] and 0.76 [0.69-0.83], respectively). A significant deceleration of eGFR decline was also observed after biologic administration in patients treated with biologics (-1.0 versus -0.4 [mL/min/1.73m²/year] before and after biologic use). Thus, biologic agent administration was independently associated with lower risk of incident CKD and progressive eGFR decline. Copyright © 2017.

Genetics of immune-mediated inflammatory diseases

Author(s): David T.; Ling S.F.; Barton A.

Source: Clinical and Experimental Immunology; 2018

Publication Type(s): Article In Press

Abstract: Immune-mediated inflammatory diseases (IMIDs) are characterized by dysregulation of the normal immune response, which leads to inflammation. Together, they account for a high disease burden in the population, given that they are usually chronic conditions with associated co-morbidities. Examples include systemic lupus erythematosus, rheumatoid arthritis, Crohn's disease and type 1 diabetes. Since the advent of genome-wide association studies, evidence of considerable genetic overlap in the loci predisposing to a wide range of IMIDs has emerged. Understanding the genetic risk and extent of genetic overlap between IMIDs may help to determine which genes control which aspects of the different diseases; it may identify potential novel therapeutic targets for a number of these conditions, and/or it may facilitate repurposing existing therapies developed

originally for different conditions. The findings show that autoantibody-mediated autoimmune diseases cluster more closely with each other than autoantibody-negative diseases such as psoriasis, psoriatic arthritis, Crohn's disease and ankylosing spondylitis which, instead, form a seronegative genetic cluster. The genetic clustering largely mirrors the known response to existing biological therapies, but apparent anomalies in treatment response are discussed. Copyright © 2018 British Society for Immunology.

Effect of Biologic Therapy on Clinical and Laboratory Features of Macrophage Activation Syndrome Associated With Systemic Juvenile Idiopathic Arthritis

Author(s): Schulert G.S.; Lovell D.; Grom A.A.; Minoia F.; Ravelli A.; Bohnsack J.; Cron R.Q.; Hashad S

Source: Arthritis Care and Research; 2018

Publication Type(s): Article In Press

Abstract:Objective: To assess performance of the 2016 macrophage activation syndrome (MAS) classification criteria for patients with systemic juvenile idiopathic arthritis (JIA) who develop MAS while treated with biologic medications. Methods: A systematic literature review was performed to identify patients with MAS while being treated with interleukin (IL)-1 and IL-6 blocking agents. Clinical and laboratory information was compared to a large previously compiled historical cohort. Results: Eighteen publications were identified, and after removing duplicates, 35 patients treated with canakinumab and 49 patients with tocilizumab were available for analysis; 5 anakinra-treated patients were excluded due to limited numbers. MAS classification criteria were less likely to classify tocilizumab-treated patients as having MAS compared to the historical cohort or canakinumab-treated patients (56.7%, 78.5%, and 84%, respectively; $P < 0.01$). Patients who developed MAS while treated with canakinumab trended towards lower ferritin at MAS onset than the historical cohort (4,050 versus 5,353 ng/ml; $P = 0.18$) but had no differences in other cardinal clinical or laboratory features. In comparison, patients who developed MAS while treated with tocilizumab were less likely febrile and had notably lower ferritin levels (1,152 versus 5,353 ng/ml; $P < 0.001$). Other features of MAS were more pronounced in patients treated with tocilizumab, including lower platelet counts, lower fibrinogen, and higher aspartate aminotransferase levels. Mortality rates for patients with MAS treated with tocilizumab or canakinumab were not significantly different from the historical cohort. Conclusion: These findings show substantial alterations in MAS features that may limit utility of defined criteria for diagnosis of systemic JIA patients treated with biologic agents. Copyright © 2018 American College of Rheumatology.

In vivo models for inflammatory arthritis

Author(s): Jones G.W.; Hill D.G.; Sime K.; Williams A.S.

Publication Type(s): Chapter

Abstract:In vivo mouse models of inflammatory arthritis are extensively used to investigate pathogenic mechanisms governing inflammation-driven joint damage. Two commonly utilized models include collagen-induced arthritis (CIA) and methylated bovine serum albumin (mBSA) antigen-induced arthritis (AIA). These offer unique advantages for modeling different aspects of human disease. CIA involves breach of immunological tolerance resulting in systemic autoantibody-driven arthritis, while AIA results in local resolving inflammatory flares and articular T cell-mediated damage. Despite limitations that apply to all animal models of human disease, CIA and AIA have been instrumental in identifying pathogenic mediators, immune cell subsets and stromal cell responses that determine disease onset, progression, and severity. Moreover, these models have enabled investigation of disease phases not easily studied in patients and have served as testing beds for novel biological therapies, including cytokine blockers and small molecule inhibitors of intracellular signaling that have revolutionized rheumatoid arthritis treatment. Copyright © 2018, Springer Science+Business Media, LLC.

Long-term efficacy and safety of add-on tacrolimus for persistent, active rheumatoid arthritis despite treatment with methotrexate and tumor necrosis factor inhibitors

Author(s): Naniwa T.; Iwagaitsu S.; Kajiura M.

Source: International Journal of Rheumatic Diseases; 2018

Publication Type(s): Article In Press

Abstract:Aim: To assess the long-term efficacy and safety of adding tacrolimus for patients with active rheumatoid arthritis (RA) despite anti-tumor necrosis factor (TNF) therapy with methotrexate. Methods: Consecutive patients who were treated with adding tacrolimus onto anti-TNF therapy with methotrexate for active RA despite anti-TNF therapy with methotrexate, were retrospectively analyzed in terms of treatment response, achieving remission, subsequent treatment tapering and adverse events. Results: Fifteen patients could be analyzed. Median symptom duration was 2.9 years and prior duration of anti-TNF therapy was 40 weeks. Median value of Disease Activity Score in 28 joints was 4.6. Five, eight and two were on infliximab, etanercept and adalimumab at the onset of tacrolimus, respectively. At 2 years, the proportions of patients achieving responses of American College of Rheumatology 50, 70 and 90, were 80%, 73% and 40%, respectively, and those achieving remission as defined by Simplified Disease Activity Index ≤ 3.3 were 67%. All patients could discontinue oral glucocorticoids and 10 had been successfully withdrawn from anti-TNF therapy for more than 1 year at the final observation. Conclusion: Adding tacrolimus onto anti-TNF therapy is a promising therapeutic option with sustained benefit for refractory RA patients despite treatment with anti-TNF therapy combined with methotrexate. Copyright © 2017 Asia Pacific League of Associations for Rheumatology and John Wiley & Sons Australia, Ltd.

Management of Uveitis in Spondyloarthropathy: Current Trends.

Author(s): Gupta, Nikhil; Agarwal, Aditi

Source: The Permanente journal; 2018; vol. 22

Publication Type(s): Journal Article Review

Available at [The Permanente Journal](#) - from PubMed Central

Abstract:Spondyloarthritis is a chronic inflammatory disease predominantly affecting joints of the axial skeleton. However, as many as 50% of patients with this disease may have extra-articular manifestations, which include uveitis; psoriasis; inflammatory bowel disease such as Crohn disease or ulcerative colitis; cardiovascular manifestations in the form of conduction abnormalities, atherosclerosis, or valvular heart disease; pulmonary involvement; and rarely renal involvement. Uveitis occurs in 25% to 40% of patients with spondyloarthritis. Management of uveitis is crucial to prevent morbidity caused by vision loss and secondary complications. Treatment ranges from local therapies to systemic drugs and varies depending on the severity and response to treatment. Categories of medical treatment include nonsteroidal anti-inflammatory agents, corticosteroids, and steroid-sparing agents. Biologic therapies such as antitumor necrosis factor agents act early in the disease process and have revolutionized the field of rheumatology, including management of uveitis. This review will focus on the management of ophthalmic manifestations in spondyloarthropathies.

Interethnic Variations and Clinical Features of Spondyloarthropathies in a Middle Eastern Country.

Author(s): Quraishi, Mohammed Kamil; Badsha, Humeira; Khan, Bhavna; Shahzeb, Muhammad

Source: The open rheumatology journal; 2018; vol. 12 ; p. 10-18

Publication Type(s): Journal Article

Available at [The open rheumatology journal](#) - from Europe PubMed Central - Open Access

Abstract:ObjectivesThe study aimed to demonstrate the interethnic differences and clinical features of Spondyloarthropathy(SpA) patients in a diverse Middle Eastern Country.MethodsA retrospective review of medical records to collect the required data was conducted for SpA patients at two study institutions in the United Arab Emirates.ResultsOf 141 SpA patients found, 88 AS(Ankylosing

Spondylitis) patients and 53 'other SpA' patients were identified. Males constituted 81% of AS and 55% of 'other SpA' patients. Patients with AS and 'other SpA' had a mean age of symptom onset of 28 and 34 years, respectively. 49% and 40% of AS and 'other SpA' patients had a history of Anti-TNF therapy usage. Enthesitis and Uveitis were noted in 16% and 18% of AS patients whilst 53% and 11% in 'other SpA' patients, respectively. Caucasian, Indian Subcontinent and Arabs constituted 93% of our cohort. Mean age of onset of symptoms in the Indian Subcontinent 'other SpA' group was much greater than the other two ethnicities. Duration of symptoms to diagnosis was 3.5 and 4 years in AS and other SpA patients' respectively. HLA-B27 positivity was found in 53%, 80% and 93% of Arab, Indian Subcontinent and Caucasian AS patients, respectively, whilst seen in 50%, 25% and 33% of the same respective ethnicities in 'other SpA' patients. Conclusion This study on 141 patients is the largest to analyse inter-ethnic variations in SpA patients in the region. Our cohort shows a short delay in diagnosis with a relatively higher Anti-TNF usage.

High rate of serious infection in juvenile idiopathic arthritis patients under biologic therapy in a real-life setting.

Author(s): Brunelli, Juliana Barbosa; Schmidt, Ana Renata; Sallum, Adriana Maluf Elias; Goldenstein-Schainberg, Claudia; Bonfá, Eloisa; Silva, Clovis A; Aikawa, Nádia Emi

Source: Modern rheumatology; Mar 2018; vol. 28 (no. 2); p. 264-270

Publication Type(s): Journal Article

Abstract: OBJECTIVE To assess the rate of serious and/or opportunistic infections in juvenile idiopathic arthritis (JIA) patients from a single tertiary center under biologic therapy and to identify possible risk factors associated to these complications. METHODS A total of 107 JIA patients followed at the biologic therapy center of our tertiary university hospital using a standardized electronic database protocol including demographic data, clinical and laboratorial findings and treatment at baseline and at the moment of infection. Opportunistic infections included tuberculosis, herpes zoster and systemic mycosis. RESULTS A total of 398 patient-yrs(py) were included. The median time of biologic exposure was 3.0 years (0.15-11.5). We observed 35 serious/opportunistic infectious events in 27 (25%) patients: 31(88.6%) were serious infections and four (11.4%) opportunistic infections. Serious/opportunistic infections rates were 10.6/100py for ETN, 10.9/100py for ADA, 2.6/100py for ABA and 14.8/100py for TCZ. Comparison of 27 patients with and 80 without infection showed a higher frequency of systemic-onset JIA, lower age at biologic therapy initiation and a history of previous serious infection ($p < .05$) in the former group. CONCLUSION This study demonstrated a high rate of serious infections in JIA patients under biologic therapy in a real-life setting. Systemic-onset JIA, lower age at biologic therapy start and history of previous serious infections were important risk factors for these complications. Also, higher rates of severe infections comparing to the former studies was possibly due to elevated MTX doses in our patients.

Clinical Juvenile Arthritis Disease Activity Score proves to be a useful tool in treat-to-target therapy in juvenile idiopathic arthritis.

Author(s): Swart, Joost F; van Dijkhuizen, E H Pieter; Wulffraat, Nico M; de Roock, Sytze

Source: Annals of the rheumatic diseases; Mar 2018; vol. 77 (no. 3); p. 336-342

Publication Type(s): Journal Article

Available at [Annals of the Rheumatic Diseases](#) - from BMJ Journals - NHS

Abstract: OBJECTIVE To assess if the Juvenile Arthritis Disease Activity Score (JADAS71) could be used to correctly identify patients with juvenile idiopathic arthritis (JIA) in need of antitumour necrosis factor therapy (anti-TNF) therapy 3 and 6 months after start of methotrexate (MTX). METHODS Monocentric retrospective cohort study from 2011 to 2015 analysing all patients with oligoarticular JIA (OJIA) (n=39) and polyarticular course JIA (PJIA) (n=74) first starting MTX. Three and 6 months after MTX start, clinical and laboratory features and the 2011 American College of Rheumatology (ACR) JIA treatment recommendations (ACR clinical practice guideline (ACR-CPG)) were compared between groups starting and not starting anti-TNF therapy. The sensitivity and

specificity of the ACR-CPG, JADAS71 and the clinical JADAS to identify non-responders after 12 months were calculated. RESULTSPhysicians escalated patients with significantly higher physician global assessment, clinical JADAS (cJADAS) and patient Visual Analogue Scale (VAS). The decision not to escalate was correct in 70%-75% as shown by MTX response. The implementation of the ACR-CPG would increase the current anti-TNF use from 12% to 65%. The use of (c)JADAS in identifying patients in need of anti-TNF therapy outperformed the ACR-CPG with a much higher sensitivity, specificity and accuracy. The cJADAS threshold for treatment escalation at month 3 and 6 was >5 and >3 for OJIA and >7 and >4 for PJIA, respectively. The performance of the cJADAS decreased when the patient VAS contribution to the total score was restricted and overall did not improve by adding the erythrocyte sedimentation rate. CONCLUSIONSThe cJADAS identifies patients in need of anti-TNF and is a user-friendly tool ready to be used for treat to target in JIA. The patient VAS is a critical item in the cJADAS for the decision to escalate to anti-TNF.

Articular cartilage aging-potential regenerative capacities of cell manipulation and stem cell therapy

Author(s): Krajewska-Wlodarczyk M.; Osowski A.; Wojtkiewicz J.; Owczarczyk-Saczonek A.; Placek W.

Source: International Journal of Molecular Sciences; Feb 2018; vol. 19 (no. 2)

Publication Type(s): Review

Available at [International journal of molecular sciences](https://www.mdpi.com/1422-0067/19/2) - from mdpi.com

Abstract:Changes in articular cartilage during the aging process are a stage of natural changes in the human body. Old age is the major risk factor for osteoarthritis but the disease does not have to be an inevitable consequence of aging. Chondrocytes are particularly prone to developing age-related changes. Changes in articular cartilage that take place in the course of aging include the acquisition of the senescence-associated secretory phenotype by chondrocytes, a decrease in the sensitivity of chondrocytes to growth factors, a destructive effect of chronic production of reactive oxygen species and the accumulation of the glycation end products. All of these factors affect the mechanical properties of articular cartilage. A better understanding of the underlying mechanisms in the process of articular cartilage aging may help to create new therapies aimed at slowing or inhibiting age-related modifications of articular cartilage. This paper presents the causes and consequences of cellular aging of chondrocytes and the biological therapeutic outlook for the regeneration of age-related changes of articular cartilage. Copyright © 2018 by the authors. Licensee MDPI, Basel, Switzerland.

Cost-Effectiveness Analysis of Abatacept Compared with Adalimumab on Background Methotrexate in Biologic-Naive Adult Patients with Rheumatoid Arthritis and Poor Prognosis

Author(s): Alemao E.; Johal S.; Al M.J.; Rutten-van Molken M.

Source: Value in Health; Feb 2018; vol. 21 (no. 2); p. 193-202

Publication Type(s): Article

Abstract:Objectives: To assess cost effectiveness of abatacept versus adalimumab, each administered with methotrexate, in treating patients with rheumatoid arthritis (RA) stratified according to baseline anticitrullinated protein antibody (ACPA) levels (marker of poor prognosis in RA). Methods: A payer-perspective cost-effectiveness model simulated disease progression in patients with RA who had previously failed conventional disease-modifying antirheumatic drugs and were starting biologic therapy. Patients commenced treatment with abatacept or adalimumab plus methotrexate and were evaluated after 6 months. Therapy continuation was based on the European League Against Rheumatism treatment response; disease progression was based on the Health Assessment Questionnaire Disability Index score. These score changes were used to estimate health state utilities and direct medical costs. Quality-adjusted life-years (QALYs) and incremental cost per QALY gained were calculated by baseline ACPA groups (Q1, 28-234 AU/ml; Q2, 235-609 AU/ml; Q3, 613-1045 AU/ml; and Q4, 1060-4894 AU/ml). Scenario analysis and one-way and probabilistic

sensitivity analyses were used to evaluate robustness of model assumptions. Results: Abatacept resulted in QALY gain versus adalimumab in ACPA Q1, Q3, and Q4; between-treatment difference (difference: Q1, -0.115 Q2, -0.009 Q3, 0.045; and Q4, 0.279). Total lifetime discounted cost was higher for abatacept versus adalimumab in most quartiles (Q2, 77,612 vs. 77,546; Q3, 74,441 vs. 73,263; and Q4, 78,428 vs. 76,696) because of longer time on treatment. Incremental cost per QALY for abatacept (vs. adalimumab) was the lowest in the high ACPA titer group (Q4, 6200/QALY), followed by the next lowest titer group (Q3, 26,272/QALY). Conclusions: Abatacept is a cost effective alternative to adalimumab in patients with RA with high ACPA levels. Copyright © 2018 International Society for Pharmacoeconomics and Outcomes Research (ISPOR)

Ischemic heart disease and ankylosing spondylitis-assessing the role of inflammation

Author(s): Vinker Shuster M.; Gendelman O.; Tiosano S.; Amital H.; Comaneshter D.; Cohen A.D.

Source: Clinical Rheumatology; Feb 2018 ; p. 1-6

Publication Type(s): Article In Press

Abstract: To assess the association of ankylosing spondylitis (AS) and ischemic heart disease (IHD) compared to traditional cardiovascular (CV) risk factors. Primary care and hospital records of patients with AS were analyzed, using the largest health maintenance organization in Israel, the "Clalit" Health Services data. These patients were compared with age- and gender-matched controls regarding the proportion of IHD in a cross-sectional study. Parameters including socioeconomic status, body mass index (BMI), smoking habits, and coexistent medical conditions hypertension, hyperlipidemia, and diabetes mellitus (DM) - as well as the use of NSAIDs and anti-TNFs were also assessed. The study included 4076 AS patients compared to 20,290 age- and gender-matched controls without AS. The proportion of IHD was higher among AS patients as compared to controls (14.1 vs. 6.36%, respectively, $p < 0.01$) and patients treated with anti-TNFs had a lower risk for IHD compared to non-anti-TNF users. The proportion of hypertension, hyperlipidemia, DM, and smoking was also higher among AS patients. However, in multivariate analyses following adjustment to these risk factors, AS was not found to be associated with IHD nor anti-TNF therapy to be a protective factor. Patients with AS have more traditional CV risk factors, thus are in a higher risk for IHD. AS itself was not shown to be independently associated with IHD. These findings emphasize the multifactorial process leading to increased proportion of IHD among AS patients and the need for a stringent control of traditional risk factors in these patients. Copyright © 2018 International League of Associations for Rheumatology (ILAR)

Influence of NKG2D genetic variants on response to anti-TNF agents in patients with rheumatoid arthritis

Author(s): Iwaszko M.; Bogunia-Kubik K.; Swierkot J.; Wiland P.; Kolossa K.; Jeka S.

Source: Genes; Feb 2018; vol. 9 (no. 2)

Publication Type(s): Article

Available at [Genes](#) - from mdpi.com

Abstract: A natural killer group 2 member D (NKG2D) acts as a powerful activating and co-stimulatory receptor on immune effector cells including NK and T cells. Disruptions within the NKG2D signalling pathway may trigger an exacerbated immune response and promote autoimmune reactions. The objective of the study was to evaluate a plausible role of polymorphisms within the NKG2D gene as a predictor of how effective anti-tumor necrosis factor (TNF) therapy is in rheumatoid arthritis (RA) patients. A total of 280 RA patients receiving anti-TNF therapy were genotyped for NKG2D rs2255336 (A > G), rs1049174 (C > G), and rs1154831 (C > A). Clinical response was evaluated according to the European League against Rheumatism (EULAR) criteria at the 12th and 24th week. Both the NKG2D rs225336 and rs1049174 polymorphisms were significantly associated with efficacy of TNF inhibitors. Inefficient therapy was more frequently observed in patients with rs2255336 GG or rs1049174 CC genotype as compared to other genotypes (p -value = 0.003 and p -value = 0.004,

respectively). The presence of the rs2255336 G or the rs1049174 C allele correlated with a worse EULAR response (p-value = 0.002, p-value = 0.031, respectively). Moreover, patients carrying the rs2255336 or rs1049174 heterozygous genotype achieved better EULAR responses than patients with homozygous genotypes (p-value = 0.010 and p-value = 0.002, respectively). Data from the present study provides evidence that NKG2D polymorphisms may affect response to anti-TNF inhibitors in RA patients. Copyright © 2018 by the authors. Licensee MDPI, Basel, Switzerland.

Database: EMBASE

Repository corticotropin injection in patients with rheumatoid arthritis resistant to biologic therapies

Author(s): Fischer P.A.; Rapoport R.J.

Source: Open Access Rheumatology: Research and Reviews; Feb 2018; vol. 10 ; p. 13-19

Publication Type(s): Article

Available at [Open access rheumatology : research and reviews](#) - from PubMed Central

Abstract: Although synthetic and biologic disease-modifying antirheumatic drugs are available, many patients with rheumatoid arthritis have a difficult-to-control disease and need other treatment options. Repository corticotropin injection (RCI) may alleviate symptoms and exacerbations in patients with refractory disease. **Methods:** Nine patients with refractory rheumatoid arthritis were included in this study. Patients were maintained on their baseline therapies with a minimum of 7.5 mg prednisone daily. RCI was given daily at 40 U for 7 days. Patients who had an adequate disease response were given 40 U twice weekly through Week 12. For patients who had inadequate disease response, the dose was increased to 80 U daily for 7 days, followed by 80 U twice weekly through Week 12. **Results:** The primary endpoint was >1.2 point reduction in the Disease Activity Score 28 using C-reactive protein (DAS28-CRP) at Week 12. Secondary endpoints were improvements in Health Assessment Questionnaire-Disease Index and Functional Assessment of Chronic Illness Therapy scores. Six of the nine patients met the primary endpoint. The average change in DAS28-CRP from baseline to Week 12 was numerically greater with 40 U than with 80 U RCI. Functional Assessment of Chronic Illness Therapy and Health Assessment Questionnaire-Disease Index improved as early as Week 1, and the improvements remained throughout treatment. **Conclusion:** There was no association between cortisol levels and low-dose RCI response. No serious adverse events occurred. RCI produced a clinically meaningful reduction in markers of disease activity, improved health-related quality of life, and a favorable safety profile. The response rate to RCI was substantial and shows promise in this difficult-to-treat population. Copyright © 2018 Fischer and Rapoport.

Cost and Cost Effectiveness of Treatments for Psoriatic Arthritis: A Systematic Literature Review

Author(s): D'Angiolella L.S.; Cortesi P.A.; Lafranconi A.; Micale M.; Mangano S.; Cesana G

Source: PharmacoEconomics; Feb 2018 ; p. 1-23

Publication Type(s): Article In Press

Abstract: **Background:** Psoriatic arthritis is a long-term inflammatory arthropathy occurring in a subgroup of patients with psoriasis. In addition to irreversible bone erosions, joint destruction, and skin manifestations, psoriatic arthritis is associated with numerous comorbid conditions. Over the last 5 years, new treatments emerged; the analysis and comparisons of their additional costs and the added benefits have become increasingly important to optimize the limited resources available. **Methods:** A systematic literature review covering PubMed, EMBASE, and the Cochrane Library was performed from May 2012 to October 2017 focusing on the most recent evidence of costs, benefits, and burden of psoriatic arthritis and its treatments. All economic evaluations assessing the burden of patients with psoriatic arthritis and written in English were eligible for inclusion. We also performed an assessment of the quality of the studies. **Results:** Of the 1652 references found in the literature search, nine cost-effectiveness analyses and 12 cost-of-illness studies were included in the current review. Patients with psoriatic arthritis incur substantially higher direct and indirect costs, as

compared with patients with psoriasis without arthritis or patients with other inflammatory diseases. The cost of treatment with biologic therapies is the major predictor of the total cost. However, individuals with psoriatic arthritis are also affected by substantial productivity losses and indirect costs. Biologic therapies are generally cost effective vs. conventional therapies (e.g., synthetic drugs) for treating psoriatic arthritis. Conclusions: Psoriatic arthritis is associated with a significant economic burden and biologic therapies contribute significantly to these costs. Biologic therapies are more effective than disease-modifying anti-rheumatic drugs for the symptoms and signs of psoriatic arthritis and for improving quality of life and inhibiting structural radiological damage. Therefore, biologic therapies are cost effective compared with conventional therapies: the increased direct cost associated with biologic drugs is offset by the significant improvement in the efficacy of treatments and in patient management of psoriatic arthritis. Copyright © 2018 Springer International Publishing AG, part of Springer Nature

Effectiveness of Exercise Programs in Ankylosing Spondylitis: A Meta-Analysis of Randomized Controlled Trials

Author(s): Pecourneau V.; Degboe Y.; Cantagrel A.; Constantin A.; Ruysen-Witrand A.; Barnette T.

Source: Archives of Physical Medicine and Rehabilitation; Feb 2018; vol. 99 (no. 2); p. 383

Publication Type(s): Review

Abstract:Objective To assess the effectiveness of exercise programs on disease activity and function in ankylosing spondylitis (AS) by a systematic review and meta-analysis of randomized controlled trials (RCTs). Data Sources Medline via PubMed and Cochrane Library. Study Selection Reports of RCTs examining the effectiveness of exercise programs for AS published up to May 2017. Data Extraction Outcomes were evolution of the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) after the completion of exercise programs. Modalities of exercise were compared and the use of biologic therapy was reported. Data Synthesis After screening 190 abstracts, we selected 26 reports for detailed evaluation and finally investigated 8 trials that assessed a home-based exercise program (2/8), swimming (1/8), Pilates training (1/8), or supervised exercises (4/8), for a total of 331 patients with AS. Four trials included patients receiving antitumor necrosis factor therapy. All trials except one showed a decrease in BASDAI and BASFI with exercise. The weighted mean difference was -0.90 (95% confidence interval, -1.52 to -0.27; I²=69%; P=.005) for the BASDAI and -0.72 (95% confidence interval, -1.03 to -0.40; I²=0%; P<.00001) for the BASFI in favor of exercise programs. Conclusions Despite the small number of patients and the heterogeneity of exercise programs in the RCTs included in this meta-analysis, its results support the potential of exercise programs to improve disease activity and body function in AS. Copyright © 2017 American Congress of Rehabilitation Medicine

Effectiveness and safety of ustekinumab in naive or TNF-inhibitors failure psoriatic arthritis patients: a 24-month prospective multicentric study

Author(s): Chimenti M.S.; Triggianese P.; Perricone R.; Ortolan A.; Lorenzin M.; Favero M.; Punzi L.

Source: Clinical Rheumatology; Feb 2018; vol. 37 (no. 2); p. 397-405

Publication Type(s): Article

Abstract:The current prospective observational study aimed to evaluate the long-term (24 months), real-life effectiveness of ustekinumab in psoriatic arthritis (PsA). Consecutive patients with moderate-severe PsA and active psoriasis who begun ustekinumab treatment were evaluated prospectively (January 2015-March 2017). Clinimetric scores and biochemical values were assessed at baseline (T0), at 6 (T6), 12 (T12), and 24 (T24) months. Friedman test and generalized linear models were used to compare variables over time. Regression analysis to identify determinants of minimal disease activity (MDA) at T6 and of treatment discontinuation was conducted. Sixty-five patients (43.1% men; age 49.4 +/- 11.6 years) were enrolled; ustekinumab was prescribed as a first (20%), second (33.8%), third (26.5%), fourth (15.4%), or fifth (4.6%) line biological therapy.

Significant decrease in tender/swollen joints, Visual Analogue Scale of pain (VASp) and general health (VASgh), Disease Activity in PsA (DAPSA), Psoriasis Area Severity Index (PASI), Leeds Enthesitis Index (LEI), Health Assessment Questionnaire modified for spondyloarthritis (HAQ-S), erythrocyte sedimentation rate (ESR), and C-reactive protein (CRP) was achieved. MDA was reached by 30.7, 47.0, and 34.0% of patients respectively at T6, T12, and T24. In multivariable models, mono-oligoarthritis was independently associated to MDA at T6 (OR 9.02; 95% CI 1.41, 57.71), while baseline CRP (OR 1.12; 95% CI 1.00, 1.26) and LEI (OR 0.50; 95% CI 0.25, 0.97) to ustekinumab discontinuation. More patients used disease-modifying antirheumatic drugs at T0 (35.3%) than at T24 (8.5%). Only nine episodes of infection and no serious adverse events were registered. In a real-life clinical setting, ustekinumab was safe and effective in PsA. Comedication tapering was often possible. Copyright © 2018, International League of Associations for Rheumatology (ILAR).

Comparative effectiveness of abatacept, apremilast, secukinumab and ustekinumab treatment of psoriatic arthritis: a systematic review and network meta-analysis

Author(s): Kawalec P.; Holko P.; Mocko P.; Pilc A.

Source: Rheumatology International; Feb 2018; vol. 38 (no. 2); p. 189-201

Publication Type(s): Review

Available at [Rheumatology international](#) - from PubMed Central

Abstract: To assess the comparative effectiveness and safety of novel biologic therapies in psoriatic arthritis (PsA) and to establish the position of the non-anti-tumor necrosis factor alpha (TNF-alpha) biologic drugs in the treatment regimen of the disease. A systematic review and network meta-analysis (NMA) was conducted according to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) requirements. Two investigators identified the studies, abstracted data, and assessed the risk of bias independently. The NMA was conducted for efficacy [American College of Rheumatology (ACR) criteria, ACR20 and ACR50; psoriasis area and severity index (PASI), PASI75] and safety outcomes [any adverse events (AEs) and serious adverse events (SAEs)]; treatments were ranked using the P score for each outcome. The PROSPERO registration number was 42017072200. MEDLINE/PubMed, Embase, Cochrane Library, and ClinicalTrials.gov were searched from the inception of each database to July 10, 2017. Randomized controlled trials (RCTs) for abatacept, apremilast, secukinumab or ustekinumab in adults with moderate and severe PsA were included. The overall PsA population and anti-TNF-alpha-naive, anti-TNF-alpha-failure, or anti-TNF-alpha-experienced subpopulations were considered. We identified eight eligible RCTs and included them in the systematic review and NMA. Significant differences in ACR20 response rate were revealed between secukinumab 150 mg and apremilast 20 mg [relative risk; RR = 2.55 (CI-confidence interval; 1.24, 5.23)] and between secukinumab 300 mg and apremilast 20 or 30 mg [RR = 3.57 CI (1.48, 8.64) and RR = 2.84 CI (1.18, 6.86), respectively]. Any AEs occurred more often in apremilast 20 and 30 mg compared with placebo [RR = 0.58 CI (0.45, 0.74) and RR = 0.58 CI (0.45, 0.75), respectively] but also compared with secukinumab 150 mg [RR = 0.54 CI (0.35, 0.81) and RR = 0.45 CI (0.35, 0.82), respectively]. No significant differences were revealed for SAEs among biologics and between biologics and placebo. In the overall population, as well as in the anti-TNF-alpha-naive subpopulation, secukinumab at a dose of 300 and 150 mg was ranked the highest for the ACR20 endpoint, while in the anti-TNF-alpha-experienced subpopulation, secukinumab 300 mg and apremilast 30 mg revealed the highest rank. Secukinumab 75 mg was the safest drug in terms of any AEs, but for SEAs the safest was ustekinumab 90 mg. Our study revealed no significant differences among non-anti-TNF-alpha biologics in the treatment of PsA in the comparisons performed with regards to the highest efficacy and safety. Both in the overall population and in the analyzed subpopulations, secukinumab 300 mg was ranked the highest for the ACR20 response rate. Secukinumab 300 mg was the safest drug in terms of any AEs, and ustekinumab 90 mg presented the lowest overall risk of SAEs. Head-to-head trials and evaluation of comparative efficacy and safety

between non-TNF-alpha biologics are warranted to inform clinical decision making with a relevant treatment paradigm. Copyright © 2017, The Author(s).

Drug-Induced Gastrointestinal and Hepatic Disease Associated with Biologics and Nonbiologic Disease-Modifying Antirheumatic Drugs

Author(s): Wood P.R.; Caplan L.

Source: Rheumatic Disease Clinics of North America; Feb 2018; vol. 44 (no. 1); p. 29-43

Publication Type(s): Review

Abstract:A variety of gastrointestinal adverse drug reactions are seen in nearly all conventional antirheumatic medications, ranging from nausea to life-threatening drug-induced liver injury. Rheumatologists should be particularly familiar with hepatotoxicity associated with long-term methotrexate use, and the range of unique hepatic, biliary, and pancreatic manifestations associated with azathioprine. Hepatitis B virus reactivation is the most serious gastrointestinal disease risk associated with many biological therapies, particularly rituximab. Gastrointestinal perforation may be a specific concern for agents directed at interleukin-6 pathways, and some reports have raised the question of whether interleukin-17 inhibition may elevate inflammatory bowel disease risk. Copyright © 2017 Elsevier Inc.

Dosing down and then discontinuing biologic therapy in rheumatoid arthritis: a review of the literature.

Author(s): Chen, Der-Yuan; Lau, Chak Sing; Elzorkany, Bassel; Hsu, Ping-Ning; Praprotnik, Sonja

Source: International journal of rheumatic diseases; Feb 2018; vol. 21 (no. 2); p. 362-372

Publication Type(s): Journal Article Review

Abstract:AIMTo review the published studies that dose down and then discontinue biologic therapy in patients with rheumatoid arthritis (RA), particularly concerning the criteria for such dosing and the impact on clinical outcomes.METHODSPublished studies conducted in patients with RA that sequentially decreased the dose and then discontinued therapy were included if one or more of the following biologic disease modifying antirheumatic drugs (bDMARDs) was evaluated: abatacept, adalimumab, certolizumab, etanercept, golimumab, infliximab, rituximab or tocilizumab.RESULTSFive studies qualified for inclusion. The populations of patients with RA were heterogeneous among the studies; patients were required to have low disease activity (LDA) or to be in remission prior to dose titration. Approximately 25-65% of patients successfully decreased and in some cases, discontinued the bDMARD. However, the flare rate was higher than for the patients who remained on a standard dose. The only variable that predicted relapse in more than one study was down-titration of the bDMARD dose.CONCLUSIONIn patients who have achieved LDA or remission, down-titration and discontinuation of bDMARD therapy may be attempted, with careful monitoring. However, it is likely that some patients will flare, and it is not known how to predict these patients.

Patient-reported Outcomes, Resource Use, and Social Participation of Patients with Rheumatoid Arthritis Treated with Biologics in Alberta: Experience of Indigenous and Non-indigenous Patients.

Author(s): Barnabe, Cheryl; Crane, Louise; White, Tyler; Hemmelgarn, Brenda; Kaplan, Gilaad G

Source: The Journal of rheumatology; Feb 2018

Publication Type(s): Journal Article

Abstract:OBJECTIVETo characterize patient-reported outcomes, resource use, and social participation during the course of biologic therapy for indigenous and non-indigenous patients with rheumatoid arthritis (RA).METHODSPatients initiating biologic therapy (2004 to 2012) were characterized longitudinally for patient-reported outcomes including physical function measured by the Health Assessment Questionnaire, EQ-5D, well-being [Medical Outcomes Study Short Form-36

(SF-36)], and visual analog scales for pain, fatigue, sleep, stiffness, and patient's global assessment. Resource use, participation in activities of daily living, and effect of RA on work productivity were also evaluated for change during therapy. **RESULTS** Indigenous patients (n = 90) presented with significantly worse scores for global evaluation, pain, sleep, quality of life, well-being, and physical function compared to non-indigenous patients (n = 1400). All patient-reported outcomes improved significantly during treatment for patients in both groups, but pain, sleep, and SF-36 physical health score changes occurred at slower rates for indigenous patients [difference in slopes 0.09 (p = 0.029), 0.08 (p = 0.043), and -0.35 (p = 0.03), respectively]. Performance of daily activities was affected for 50% of indigenous compared to 37% of non-indigenous patients, with more use of community services and assistance from others. Employed indigenous patients reported twice the number of days being unable to work owing to RA compared to employed non-indigenous patients. Of the unemployed indigenous patients, 82% indicated they had stopped working because of arthritis, versus 48% of non-indigenous patients (p < 0.0001). **CONCLUSION** Indigenous patients have greater consequences of RA regarding experienced symptoms, health-related quality of life, disruption of performance of activities of daily living, and reduced employment participation.

Real-World Treatment Patterns for Golimumab and Concomitant Medications in Japanese Rheumatoid Arthritis Patients.

Author(s): Okazaki, Masateru; Kobayashi, Hisanori; Ishii, Yutaka; Kanbori, Masayoshi;

Source: Rheumatology and therapy; Feb 2018

Publication Type(s): Journal Article

Available at [Rheumatology and therapy](#) - from Europe PubMed Central - Open Access

Abstract: **INTRODUCTION** The aim of this study was to investigate real-world treatment patterns for use of golimumab and concomitant medications in Japanese patients with rheumatoid arthritis. **METHODS** This study was a post hoc retrospective analysis from post-marketing surveillance data on 2350 Japanese patients with moderate/severe rheumatoid arthritis who received golimumab for 24 weeks. The study population was divided based on initiation treatment or dose adjustment patterns with golimumab, methotrexate, or oral glucocorticoids. **RESULTS** Logistic regression analysis revealed that the baseline factors associated with administration of golimumab (100 mg) were higher body weight, failure of prior biological therapy (bio-failure), no previous methotrexate use, and respiratory disease, while previous methotrexate use and absence of renal impairment or respiratory disease were associated with concomitant methotrexate therapy, and previous glucocorticoid use was associated with concomitant glucocorticoid therapy. The following associations were identified with regard to dose adjustment during treatment: bio-failure, no previous methotrexate use, previous csDMARDs use, presence of respiratory disease, allergy history, and higher CRP for golimumab dose escalation; shorter disease duration, previous GC, and no previous methotrexate use for methotrexate dose escalation; no prior biological therapy and renal impairment for methotrexate dose reduction; no previous GC use for glucocorticoid dose escalation; and absence of Steinbrocker's stage II/III/IV, absence of Steinbrocker's class II, no bio-failure, and no previous csDMARDs use for glucocorticoid dose reduction. **CONCLUSION** This study revealed that various baseline factors were associated with initiation of treatment and dose adjustment of golimumab, methotrexate, or oral glucocorticoids, reflecting both the treatment strategies of physicians for improving RA symptoms and/or reducing adverse events. **FUNDING** Janssen Pharmaceutical K.K. and Mitsubishi Tanabe Pharma Corporation.

Novel therapeutic approaches in Rheumatoid Arthritis: Role of Janus Kinases Inhibitors.

Author(s): Rivellesse, Felice; Lobasso, Antonio; Barbieri, Letizia; Liccardo, Bianca; De Paulis, Amato; Rossi, Francesca Wanda

Source: Current medicinal chemistry; Feb 2018

Publication Type(s): Journal Article

Abstract: Rheumatoid arthritis (RA) is a chronic inflammatory disease characterized by synovial inflammation and hyperplasia, autoantibody production, cartilage and bone destruction and several systemic features. Cardiovascular, pulmonary, psychological, and muscle involvement are the main comorbidities of RA and are responsible for the severity of the disease and long-term prognosis. Pharmacological treatment of rheumatic diseases has evolved remarkably over the past years. In addition, the widespread adoption of treat to target and tight control strategies has led to a substantial improvement of outcomes, so that drug-free remission is nowadays a realistic goal in the treatment of RA. However, despite the availability of multiple therapeutic options, up to 40% of patients do not respond to current treatments, including biologics. Small-molecule therapies offer an alternative to biological therapies for the treatment of inflammatory diseases. In the past 5 years, a number of small-molecule compounds targeting Janus kinases (JAKs) have been developed. Since JAKs are essential for cell signaling in immune cells, in particular controlling the response to many cytokines, their inhibitors quickly became a promising class of oral therapeutics that proved effective in the treatment of RA. Tofacitinib is the first Janus kinase (JAK) inhibitor approved for the treatment of RA, followed more recently by baricitinib. Several other JAK inhibitors, are currently being tested in phase II and III trials for the treatment of a different autoimmune diseases. Most of these compounds exhibit an overall acceptable safety profile similar to that of biologic agents, with infections being the most frequent adverse event. Apart from tofacitinib, safety data on other JAK inhibitors are still limited. Long-term follow up and further research are needed to evaluate the general safety profile and the global risk of malignancy of these small molecules, although no clear association with malignancy has been reported to date. Here, we will review the main characteristics of JAK inhibitors, including details on their molecular targets and on the clinical evidences obtained so far in the treatment of RA.

Comparison of the efficacy and tolerability of tocilizumab, sarilumab, and sirukumab in patients with active rheumatoid arthritis: a Bayesian network meta-analysis of randomized controlled trials.

Author(s): Bae, Sang-Cheol; Lee, Young Ho

Source: Clinical rheumatology; Feb 2018

Publication Type(s): Journal Article

Abstract: The relative efficacy and tolerability of tocilizumab, sarilumab, and sirukumab were assessed in patients with rheumatoid arthritis (RA) and an inadequate response to methotrexate (MTX) or tumor necrosis factor (TNF) inhibitors. We performed a Bayesian network meta-analysis to combine direct and indirect evidence from randomized controlled trials (RCTs) to examine the efficacy and safety of tocilizumab, sarilumab, and sirukumab in RA patients and an inadequate MTX or TNF inhibitor response. Fourteen RCTs, comprising 9753 patients, met the inclusion criteria. Tocilizumab 8 mg combined with MTX or as monotherapy was the most effective treatment for active RA with an inadequate MTX or TNF antagonist response, followed by sarilumab and sirukumab, regardless of MTX combination. The ranking probability based on the surface under the cumulative ranking curve (SUCRA) indicated that tocilizumab 8 mg + MTX had the highest probability of being the best treatment to achieve the ACR50 response rate, followed by tocilizumab 8 mg, sarilumab 200 mg, sarilumab 200 mg + MTX, sirukumab 100 mg, tocilizumab 4 mg + MTX, sirukumab 100 mg + MTX, sirukumab 50 mg + MTX, sarilumab 150 mg + MTX, adalimumab 40 mg, and sirukumab 50 mg, and placebo + MTX. No significant differences were observed in withdrawals owing to adverse events after treatment with tocilizumab 8 mg + MTX, sirukumab 100 mg + MTX, or sarilumab 200 mg + MTX. In RA patients with an inadequate MTX or anti-TNF therapy response, tocilizumab 8 mg as monotherapy and combined with MTX showed acceptable tolerability and the highest performance based on the ACR50 response rate, followed by sarilumab and sirukumab.

Occupational Therapies

Psoriatic arthritis and seronegative spondyloarthropathies

Author(s): Jadon D.R.

Source: Medicine (United Kingdom); 2018

Publication Type(s): Article In Press

Abstract: Seronegative spondyloarthropathies are a group of overlapping forms of inflammatory joint disease, the most common conditions being psoriatic arthritis and ankylosing spondylitis. Other less common conditions include reactive arthritis, enteropathic arthritis and SAPHO (synovitis, acne, pustulosis, hyperostosis, osteitis). Shared features include a propensity to affect the spine, involvement of the enthesis, an association with anterior uveitis and inflammatory bowel disease, the absence of rheumatoid factor, and an increased frequency of HLA-B27 variants. Psoriatic arthritis has a diverse phenotype with several distinctive characteristics, including frequent involvement of the distal interphalangeal joints, dactylitis, new bone formation within the enthesis, osteolysis and ankylosis. Genetic factors are important, with HLA-Cw06 haplotypes associated with psoriasis and peripheral joint inflammation, and HLA-B27 variants associated with sacroiliitis and spondylitis. Psoriatic arthritis patients are managed with physical and occupational therapy, non-steroidal anti-inflammatory drugs, local glucocorticoid injections, conventional synthetic disease-modifying antirheumatic drugs (DMARDs) and biologic DMARDs. The advent of biologic DMARDs, including tumour necrosis factor- inhibitors, interleukin-17 inhibitors and interleukin-12/23 inhibitors, has revolutionized the management of articular disease, enthesal disease and other extra-articular manifestations in individuals with persistent severe disease. Treatment goals have therefore shifted, with clinicians and patients aiming for disease remission or minimal disease activity. Copyright © 2018.

Training Physical Therapists in Person-Centered Practice for People With Osteoarthritis: A Qualitative Case Study

Author(s): Lawford B.J.; Delany C.; Bennell K.L.; Hinman R.S.; Bills C.; Gale J.

Source: Arthritis Care and Research; 2018

Publication Type(s): Article In Press

Abstract: Objective: To explore physical therapists' experiences with, and the impacts of, a training program in person-centered practice to support exercise adherence in people with knee osteoarthritis. Methods: This was a qualitative case study using semi-structured interviews, nested within a clinical trial. Eight Australian physical therapists were interviewed before, and after, training in person-centered practice for people with knee osteoarthritis. Training involved a 2-day workshop, skills practice, and audit of 8 consultations with 4 patients (per therapist), and a final single-day workshop for audit feedback and consolidation. Semi-structured interviews were audio-recorded and transcribed verbatim. Data were thematically analyzed. Results: Three pretraining themes arose regarding usual communication style, definitions of person-centered care, and sharing exercise adherence responsibility. Three themes related to the training experience emerged: learning a new language, challenging conceptions of practice, and putting it into practice. Post-training, 3 themes arose regarding new knowledge deepening understanding of person-centered care, changing beliefs about sharing responsibilities, and changed conceptions of role. Conclusion: Although physical therapists found training overwhelming initially as they realized the limitations of their current knowledge and clinical practice, they felt more confident and able to provide person-centered care to people with knee osteoarthritis by the end of training. Training in structured person-centered methodology that provides opportunity for skills practice with patients using a restructured consultation framework can change physical therapists' beliefs about their roles when managing

patients with osteoarthritis and positively impact their clinical practice. Copyright © 2018 American College of Rheumatology.

Effects of variable velocity and resistance muscle strength training exercise with sodium Hyaluronate on rehabilitation efficacy of patients with knee osteoarthritis caused by tennis training

Author(s): Zhang Z.; Shen Y.

Source: Acta Medica Mediterranea; 2018; vol. 34 ; p. 249-253

Publication Type(s): Article

Abstract:Objective: This study was to investigate the effects of variable velocity and resistance muscle strength training exercise with sodium hyaluronate on rehabilitation efficacy of patients with knee osteoarthritis caused by tennis training. Methods: The total of 1200 knee osteoarthritis patients caused by tennis training were divided equally into three groups: the observation group (variable velocity and resistance muscle strength training exercise with sodium hyaluronate therapy), the control group (merely sodium hyaluronate injection therapy), and the physiotherapy group (paraffinotherapy, drug-iontophoresis with pulse magnetic field and high frequency electro microwave therapy). The efficacies of three groups were then compared. Results: The pain of the knee joint, the function of knee joint and low-limb muscle force were clearly improved in all three groups after the treatment for 5 weeks. There was a remarkable difference between among three groups as compared to the data before the treatment ($P < 0.05$). Efficacy in the observation group was significantly better than that of the control group and the physiotherapy group with statistical significance in the inter-group difference ($P < 0.05$). Conclusions: The therapy with variable velocity and resistance muscle strength training exercise and the aid of sodium hyaluronate reveals a fairly good effect on knee osteoarthritis caused by tennis training, which is worthy for wide application and promotion in the future.

Improving Adherence to Exercise: Do People With Knee Osteoarthritis and Physical Therapists Agree on the Behavioral Approaches Likely to Succeed?

Author(s): Nicolson P.J.A.; Hinman R.S.; Bennell K.L.; French S.D.; Lonsdale C.

Source: Arthritis Care and Research; 2018

Publication Type(s): Article In Press

Abstract:Objective: To describe which behavior change techniques (BCTs) to promote adherence to exercise have been experienced by people with knee osteoarthritis (OA) or used by physical therapists, and to describe patient- and physical therapist-perceived effectiveness of a range of BCTs derived from behavioral theory. Methods: Two versions of a custom-designed survey were administered in Australia and New Zealand, one completed by adults with symptomatic knee OA and the second by physical therapists who had treated people with knee OA in the past 6 months. Survey questions ascertained the frequency of receiving/prescribing exercise for knee OA, BCTs received/used targeting adherence to exercise, and perceived effectiveness of 36 BCTs to improve adherence to prescribed exercise. Results: A total of 230 people with knee OA and 143 physical therapists completed the survey. Education about the benefits of exercise was the most commonly received/used technique by both groups. People with knee OA rated the perceived effectiveness of all BCTs significantly lower than the physical therapists (mean difference 1.9 [95% confidence interval 1.8-2.0]). When ranked by group mean agreement score, 2 BCTs were among the top 5 for both groups: development of specific goals related to knee pain and function; and review, supervision, and correction of exercise technique at subsequent treatment sessions. Conclusion: Goal-setting techniques related to outcomes were considered to be effective by both respondent groups, and testing of interventions incorporating these strategies should be a research priority. Copyright © 2017 American College of Rheumatology.

Physical therapy vs internet-based exercise training for patients with knee osteoarthritis: Results of a randomized controlled trial

Author(s): Allen K.D.; Arbeeve L.; Callahan L.F.; Golightly Y.M.; Schwartz T.A.; Goode A.P.; Heiderscheit B.C.; Huffman K.M.; Severson H.H.

Source: Osteoarthritis and Cartilage; 2018

Publication Type(s): Article In Press

Abstract:Objective: To compare the effectiveness of physical therapy (PT, evidence-based approach) and internet-based exercise training (IBET), each vs a wait list (WL) control, among individuals with knee osteoarthritis (OA). Design: Randomized controlled trial of 350 participants with symptomatic knee OA, allocated to standard PT, IBET and WL control in a 2:2:1 ratio, respectively. The PT group received up to eight individual visits within 4 months. The IBET program provided tailored exercises, video demonstrations, and guidance on progression. The primary outcome was the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC, range 0 [no problems]-96 [extreme problems]), assessed at baseline, 4 months (primary time point) and 12 months. General linear mixed effects modeling compared changes in WOMAC among study groups, with superiority hypotheses testing differences between each intervention group and WL and non-inferiority hypotheses comparing IBET with PT. Results: At 4-months, improvements in WOMAC score did not differ significantly for either the IBET or PT group compared with WL (IBET: -2.70, 95% Confidence Interval (CI) = -6.24, 0.85, P = 0.14; PT: -3.36, 95% (CI) = -6.84, 0.12, P = 0.06). Similarly, at 12-months mean differences compared to WL were not statistically significant for either group (IBET: -2.63, 95% CI = -6.37, 1.11, P = 0.17; PT: -1.59, 95% CI = -5.26, 2.08, P = 0.39). IBET was non-inferior to PT at both time points. Conclusions: Improvements in WOMAC score following IBET and PT did not differ significantly from the WL group. Additional research is needed to examine strategies for maximizing benefits of exercise-based interventions for patients with knee OA. Trial registration: NCT02312713. Copyright © 2018.

Exercise training in patients with pulmonary and systemic hypertension: A unique therapy for two different diseases

Author(s): Leggio M.; Fusco A.; Limongelli G.; Sgorbini L.

Source: European Journal of Internal Medicine; 2018; vol. 47 ; p. 17-24

Publication Type(s): Review

Abstract:Pulmonary hypertension is a potentially life-threatening condition. Given its evolving definition, the incidence and prevalence of the disease is difficult to define, but registries suggest an increased global awareness. The management of patients with pulmonary arterial hypertension is highly specialised and requires multi-disciplinary input from a range of healthcare professionals, including cardiologists, respiratory physicians, rheumatologists, rehabilitation physicians and cardio-pulmonary physiotherapists. Historically, exercise training in pulmonary hypertension has not been recommended because of safety concerns. However, an increasing number of studies have demonstrated the benefit of exercise training on exercise capacity, peak oxygen consumption and quality of life. Systemic hypertension is one of the most important risk factors for cardiovascular disease, and has been ranked as the leading cause for death and disability worldwide: therefore, adequate control of blood pressure is important for public health. Lowering of blood pressure and prevention of hypertension is in first instance preferable by lifestyle changes. These include weight loss, moderation of alcohol intake, a diet with increased fresh fruit and vegetables, reduced saturated fat, reduced salt intake, reduced stress, and, finally, increased physical activity. With regard to the latter, former guidelines predominantly recommended aerobic exercises such as walking, jogging, and cycling for lowering blood pressure. The main focus of this narrative overview paper is to briefly examine and summarize the benefit of exercise training in patients with pulmonary and systemic hypertension, suggest mechanisms by which exercise may improve

symptoms and function and provide evidence-based recommendations regarding the frequency and intensity of exercise in these patients. Copyright © 2017 European Federation of Internal Medicine.

Physical Therapists' Perceptions of Telephone- and Internet Video-Mediated Service Models for Exercise Management of People With Osteoarthritis

Author(s): Lawford B.J.; Bennell K.L.; Hinman R.S.; Kasza J.

Source: Arthritis Care and Research; 2018

Publication Type(s): Article In Press

Abstract:Objective: To investigate physical therapists' perceptions of, and willingness to use, telephone- and internet-mediated service models for exercise therapy for people with knee and/or hip osteoarthritis. Methods: This study used an internet-based survey of Australian physical therapists, comprising 3 sections: 1 on demographic information and 2 with 16 positively framed perception statements about delivering exercise via telephone and video over the internet, for people with hip and/or knee osteoarthritis. Levels of agreement with each statement were evaluated. Logistic regression models were used to determine therapist characteristics influencing interest in delivering telerehabilitation. Results: A total of 217 therapists spanning metropolitan, regional, rural, and remote Australia completed the survey. For telephone-delivered care, there was consensus agreement that it would not violate patient privacy (81% agreed/strongly agreed) and would save patient's time (76%), but there was less than majority agreement for 10 statements. There was consensus agreement that video-delivered care would save a patient's time (82%), be convenient for patients (80%), and not violate patient privacy (75%). Most agreed with all other perception statements about video-delivered care, except for liking no physical contact (14%). Low confidence using internet video technologies, and inexperience with telerehabilitation, were significantly associated with reduced interest in delivering telephone and/or video-based services. Conclusion: Physical therapists agree that telerehabilitation offers time-saving and privacy advantages for people with osteoarthritis and perceive video-delivered care more favorably than telephone-delivered services. However, most do not like the lack of physical contact with either service model. These findings may inform the implementation of telerehabilitation osteoarthritis services and the training needs of clinicians involved in delivering care. Copyright © 2017 American College of Rheumatology.

A comprehensive care program achieves high remission rates in rheumatoid arthritis in a middle-income setting. Experience of a Center of Excellence in Colombia

Author(s): Santos-Moreno P.; Villarreal-Peralta L.; Alvis-Zakzuk N.J.; Carrasquilla-Sotomayor M

Source: Rheumatology International; Mar 2018; vol. 38 (no. 3); p. 499-505

Publication Type(s): Article

Abstract:Management of rheumatoid arthritis (RA) in many Latin-American countries is impaired by fragmentation and scarce healthcare provision, resulting in obstacles to access, diagnosis, and treatment, and consequently in poor health outcomes. The aim of this study is to propose a comprehensive care program as a model to provide healthcare to RA patients receiving synthetic DMARDs in a Colombian setting by describing the model and its results. Health outcomes were prospectively collected in all patients entering the program. By protocol, patients are followed up during 24 months using a treat-to-target strategy with a patient-centered care (PCC) model, meaning that a patient should be seen by rheumatologist, physical and occupational therapist, physiatrist, nutritionist and psychologist, at least three times a year according to disease activity by DAS28. Otherwise, patients receive standard therapy. The incidence of remission and low disease activity (LDA) was calculated by periods of follow-up. A total of 968 patients entered the program from January 2015 to December 2016; 80.2% were women. At baseline, 41% of patients were in remission, 17% in LDA and 42% in MDS/SDA. At 24 months of follow-up, 66% were in remission, 18% in LDA and only 16% in MDS/SDA. Regarding DAS28, the mean at the beginning of the time analysis

was 3.1 (SD 1.0) and after 24 months it was 2.4 (SD 0.7), showing a statistically significant improvement ($p < 0.001$). In all patients, the reduction of disease activity was 65% (95% CI, 58-71). Patients entering the PCC program benefited from a global improvement in disease activity in terms of DAS28. Copyright © 2017, Springer-Verlag GmbH Germany, part of Springer Nature.

Willingness of older adults to participate in a randomized trial of conservative therapies for knee pain: A prospective preference assessment

Author(s): Kerman H.M.; Deshpande B.R.; Selzer F.; Losina E.; Katz J.N.

Source: Contemporary Clinical Trials Communications; Mar 2018; vol. 9 ; p. 93-97

Publication Type(s): Article

Abstract:Background In preparation for a trial of physical therapy (PT) for patients with degenerative meniscal tear and knee osteoarthritis, we conducted a prospective preference assessment - a methodology for estimating the proportion of eligible subjects who would participate in a hypothetical randomized trial. Methods We identified patients seeking care from the practices of five orthopedic surgeons. Patients completed a survey asking about their willingness to participate in a hypothetical trial, their treatment preferences, their knee pain, and demographic variables. Results We approached 201 eligible patients, of whom 67% (95% confidence interval [CI] 60%, 73%) completed questionnaires. Of these, 24% (95% CI 17%, 31%) were definitely and 39% (95% CI 31%, 47%) were probably willing to participate in the trial. Thirty-three percent (95% CI 23%, 43%) of subjects with no treatment preference were definitely willing to participate as compared to 9% (95% CI 1%, 17%) with treatment preference ($p = .001$). Patients with higher educational attainment also stated a greater willingness to participate than those with less education ($p = .06$). In multivariable logistic regression analysis, those with no treatment preferences had greater adjusted odds of stating they would definitely participate than those with a defined treatment preference (OR 5.2, 95% CI 1.7, 16.2), while subjects with an associate's degree or greater were more likely to state they would definitely participate than those with less education (OR 3.9, 95% CI 1.1, 14.1). Conclusion In this prospective preference assessment, 63% (95% CI 55%, 71%) of subjects with degenerative meniscal tear expressed willingness to participate in a trial of PT modalities. Individuals with no treatment preferences were more likely to state they would participate than were those with higher education. This methodology can help investigators estimate recruitment rates, anticipate generalizability of the trial sample and create strategies to facilitate enrollment. Copyright © 2017

Radial Extracorporeal Shock Wave Therapy for Relief of Arthralgia in Rheumatoid Arthritis.

Author(s): Liu, Yiming; Zhang, Tingjie; Feng, Yi

Source: Pain practice : the official journal of World Institute of Pain; Mar 2018; vol. 18 (no. 3); p. 380-387

Publication Type(s): Case Reports

Abstract:More than one-third of the population with rheumatoid arthritis requires adjuvant analgesic treatment after antirheumatic therapy. In addition to analgesics, another option is radial extracorporeal shock wave therapy (rESWT), a novel physical therapy that has been successfully used in the treatment of many types of chronic soft tissue pain. We report a series of 15 patients who suffered from arthralgia after being on disease-modifying antirheumatic drugs for more than 3 months. Participants received rESWT for 3 months as an adjuvant therapy. Compared to the pretherapy baseline, follow-up at 3 months post-therapy revealed a significant reduction in resting state visual analog scale scores from 2.90 ± 0.74 to 0.80 ± 0.79 ($P = 0.004$), active state visual analog scale scores from 5.70 ± 1.33 to 2.20 ± 0.63 ($P < 0.001$), morning stiffness duration from 2.25 ± 0.79 to 1.05 ± 0.69 hours ($P = 0.004$), disease activity score with 28-joint counts based on erythrocyte sedimentation rate from 6.34 ± 0.72 to 4.19 ± 0.59 ($P = 0.001$), and Health Assessment Questionnaire scores from 10.20 ± 2.35 to 5.00 ± 2.62 ($P = 0.005$). The pre-post changes in erythrocyte sedimentation rate and C-reactive protein were not statistically significant. By the end of

treatment, 11 participants stopped analgesics completely; the other 4 participants were on a smaller dosage. No severe adverse effects related to rESWT were observed. To our knowledge, this is the first report using this therapy to treat arthralgia in rheumatoid arthritis.

Prevalence of rheumatoid cachexia assessed by bioelectrical impedance vector analysis and its relation with physical function.

Author(s): Santillán-Díaz, Cira; Ramírez-Sánchez, Noemi; Espinosa-Morales, Rolando

Source: Clinical rheumatology; Mar 2018; vol. 37 (no. 3); p. 607-614

Publication Type(s): Journal Article

Abstract: Rheumatoid arthritis (RA) patients frequently have changes in their body composition, with a decrease in muscle mass and an increase in fat mass, a syndrome that is termed rheumatoid cachexia (RC). The prevalence of this nutritional alteration is not well known; there is as yet no consensus, seeing as it depends on the methods, techniques, and cutoff points that are used for its diagnosis. The main aim of this study was to identify RC through assessment by bioelectrical impedance vector analysis (BIVA) and its association with metabolic causes, physical function, and the main disease status, among others. The prevalence of RC was identified in those subjects who fell outside the right lower quadrant of the reference curve of RXc graph of BIVA. Clinical, anthropometric, biochemical and physical activity, emotional status, and diet markers were also evaluated. Ninety-four patients were included (92.55% women). The prevalence of RC assessed by BIVA was 21.28%. BIVA-cachexia patients had a lesser value of handgrip strength vs. patients without BIVA-cachexia 10.2 kg (7.2-13.4) vs. 14.7 kg (9.6-19), $p = 0.0062$. Disability and folic acid with methotrexate consumption are related to BIVA-cachexia ((OR 4.69, 95% CI 1.33, 16.54, $p = 0.016$) and (OR 0.19, 95%CI 0.058, 0.651, $p = 0.008$), respectively). BIVA could represent a valuable tool to assess presence of RC. It is important that RA patients have physical therapy to improve their nutritional status.

Introductory paragraph.

Author(s):

Source: Clinical Rehabilitation; Mar 2018; vol. 32 (no. 3); p. 286-286

Publication Type(s): Academic Journal

Abstract: An introduction is presented in which the editor discusses the contents within the issue including articles on topics such as clinical rehabilitation of people with movement disorders, the rupture of anterior cruciate ligament, and the osteoarthritis of the knee.

Validation of the Toronto Psoriatic Arthritis Screen II (TOPAS II) questionnaire in a Turkish population

Author(s): Duruoz M.T.; Sanal Toprak C.; Ulutatar F.

Source: Rheumatology International; Feb 2018; vol. 38 (no. 2); p. 255-259

Publication Type(s): Article

Abstract: Objective: To evaluate the TOPAS II questionnaire validation in a Turkish population. Methods: The Turkish translation of ToPAS II was sent to us by the developer authors of the original index. Subjects were recruited from dermatology, physical medicine and rehabilitation, and rheumatology outpatient clinics. All patients' demographic parameters and ToPAS II questionnaire results were recorded. After patients completed the questionnaire they were assessed by a rheumatologist according to a standard protocol which includes a complete history, detailed physical examination, laboratory tests and CASPAR criteria. Receiver operating characteristics (ROC) assessed to obtain sensitivity and specificity of Turkish version of ToPAS II questionnaire. Results: One hundred and fifty subjects were recruited in the study. The mean age of subjects was 41.07 years (SD 12.59) and the 58% of subjects were female. There were 46 subjects from psoriasis group, 43

subjects from psoriatic arthritis (PsA) group, 41 subjects from physical medicine and rehabilitation group and 20 subjects from rheumatology (non-PsA) group. The area under the ROC curve was 0.99 which means as excellent predictor and optimum cut-off threshold to discriminate patients diagnosed with PsA was 8 according to this ROC curve analysis. The overall sensitivity and specificity based on cut-off threshold of 8, were 95.8 and 98%, respectively. Conclusion: The Turkish version of ToPAS II has high sensitivity and specificity. It is simple, not time consuming and useful tool to screen for PsA in both patients with and without psoriasis. Copyright © 2017, Springer-Verlag GmbH Germany, part of Springer Nature.

Hazardous parameters associated with natural radioactivity exposure from black sand

Author(s): Hilal M.A.; Borai E.H.

Source: Regulatory Toxicology and Pharmacology; Feb 2018; vol. 92 ; p. 245-250

Publication Type(s): Article

Abstract:Black sand samples collected from Baltim beaches (Kafr El-Sheikh governorate) in Egypt on the Mediterranean Sea shore were analyzed radiometrically and evaluated using a nondestructive gamma ray spectroscopic techniques. The natural radionuclides of ²²⁶Ra, ²³²Th and ⁴⁰K in the black sand samples were identified and quantified. It is found that the activity concentrations for ²²⁶Ra, ²³²Th and ⁴⁰K in different eleven sites (S1-S11) were found within the ranges of 28-322, 91-308 and 81-339 Bq/kg, respectively. Moreover, different radiological hazardous parameters (absorbed dose rate, annual effective dose equivalent, radium activity, annual gonadal dose equivalent and excess lifetime cancer risk) were calculated. The results show that these values are greater than the permissible values due to increasing the activity concentrations of the primordial radionuclides ²²⁶Ra, ²³²Th and ⁴⁰K. The dose rate for radiation emitted at 1 m from the surface of land was measured directly and the results shown that all sites emit radiation doses more than the international permissible value (57 nGy/h) especially at three sites which around 340 nGy/h. These values are important to establish baseline levels of this environmental radioactivity to detect any upcoming change for the local population and resorts people. The relatively high dose rate will be considered as a spa for the physical therapy such as treatment of some skin diseases and rheumatoid. Copyright © 2017 Elsevier Inc.

Shoulder replacement for osteoarthritis: A review of surgical management

Author(s): Pandya J.; Johnson T.; Low A.K.

Source: Maturitas; Feb 2018; vol. 108 ; p. 71-76

Publication Type(s): Review

Abstract:Osteoarthritis of the shoulder is caused by progressive cartilage wear of the glenohumeral joint. Its prevalence is increasing due to our ageing population and it may affect up to one-third of people over 60 years of age. Patients usually complain of pain with restricted shoulder movement and function. Initial treatment should be non-operative, such as activity modification, oral analgesics (e.g. non-steroidal anti-inflammatories) and possibly physical therapy or corticosteroid injections. Patients with ongoing severe pain and functional restriction despite non-operative treatment would be candidates for surgery, usually a shoulder replacement. There are various forms of shoulder replacements and the aim of this review is to discuss the types available, the indications for using one over another and recent worldwide trends in the use of shoulder replacements. Copyright © 2017 Elsevier B.V.

Feasibility of Training Physical Therapists to Deliver the Theory-Based Self-Management of Osteoarthritis and Low Back Pain Through Activity and Skills (SOLAS) Intervention Within a Trial.

Author(s): Keogh, Alison; Matthews, James; Segurado, Ricardo; Hurley, Deirdre A

Source: Physical therapy; Feb 2018; vol. 98 (no. 2); p. 95-107

Publication Type(s): Journal Article

Abstract:Background Provider training programs are frequently underevaluated, leading to ambiguity surrounding effective intervention components. Objective The purpose of this study was to assess the effectiveness of a training program in guiding physical therapists to deliver the Self-management of Osteoarthritis and Low back pain through Activity and Skills (SOLAS) group education and exercise intervention (ISRCTN49875385), using a communication style underpinned by self-determination theory (SDT). Design This was an assessment of the intervention arm training program using quantitative methods. Methods Thirteen physical therapists were trained using mixed methods to deliver the SOLAS intervention. Training was evaluated using the Kirkpatrick model: (1) Reaction-physical therapists' satisfaction with training, (2) Learning-therapists' confidence in and knowledge of the SDT-based communication strategies and intervention content and their skills in applying the strategies during training, and (3) Behavior-8 therapists were audio-recorded delivering all 6 SOLAS intervention classes (n = 48), and 2 raters independently coded 50% of recordings (n = 24) using the Health Care Climate Questionnaire (HCCQ), the Controlling Coach Behavior Scale (CCBS), and an intervention-specific measure. Results Reaction: Physical therapists reacted well to training (median [IRQ]; min-max = 4.7; [0.5]; 3.7-5.0). Learning: Physical therapists' confidence in the SDT-based communication strategies and knowledge of some intervention content components significantly improved. Behavior: Therapists delivered the intervention in a needs-supportive manner (median HCCQ = 5.3 [1.4]; 3.9-6.0; median CCBS = 6.6 ([0.5]; 6.1-6.8; median intervention specific measure = 4.0 [1.2]; 3.2-4.9). However, "goal setting" was delivered below acceptable levels by all therapists (median 2.9 [0.9]; 2.0-4.0). Limitations The intervention group only was assessed as part of the process evaluation of the feasibility trial. Conclusions Training effectively guided physical therapists to be needs-supportive during delivery of the SOLAS intervention. Refinements were outlined to improve future similar training programs, including greater emphasis on goal setting.

A manual physical therapy intervention for symptoms of knee osteoarthritis and associated fall risk: A case series of four patients.

Author(s): Allen, Chris; Sheehan, Riley; Deyle, Gail; Wilken, Jason; Gill, Norman

Source: Physiotherapy theory and practice; Feb 2018 ; p. 1-9

Publication Type(s): Journal Article

Abstract:BACKGROUND AND PURPOSE Patients with knee osteoarthritis (OA) are at an increased risk of falling. Further, the symptoms associated with knee OA are correlated with fall risk. A manual physical therapy (MPT) approach consisting of mobilizing techniques and reinforcing exercise improves the symptoms and functional limitations associated with knee OA. The purpose of this case series is to evaluate an MPT intervention of mobilization techniques and exercise for knee OA on improving symptoms and quantify the secondary benefit of improving stumble recovery. CASE DESCRIPTION Four patients with symptomatic knee OA and four matched controls completed a fall risk assessment. Following 4 weeks of intervention, patients were reevaluated. OUTCOMES Initial Western Ontario and McMaster Universities Arthritis Index (WOMAC) scores indicated notable symptoms and functional limitations in all patients. In addition, all patients displayed elevated fall risk and/or impaired stumble responses. Following 4 weeks of intervention, all patients reported meaningful reductions in all three WOMAC subscales and demonstrated improvements in at least two of the three fall risk measures. DISCUSSION We identified potential connections between symptom relief in patients with knee OA, stumble response, and ultimately fall risk. The results suggest that MPT intervention designed to improve the signs and symptoms of knee OA may lead to a secondary benefit of improved gait stability and stumble response.

Barriers to Adherence in Juvenile Idiopathic Arthritis: A Multicenter Collaborative Experience and Preliminary Results.

Author(s): Favier, Leslie A; Taylor, Janalee; Loiselle Rich, Kristin; Jones, Karla B; Vora, Sheetal S

Source: The Journal of rheumatology; Feb 2018

Publication Type(s): Journal Article

Abstract: OBJECTIVE Nonadherence is currently an underrecognized and potentially modifiable obstacle to care in juvenile idiopathic arthritis (JIA). The purpose of our study was to design and implement a standardized approach to identifying adherence barriers for youth with JIA across 7 pediatric rheumatology clinics through the Pediatric Rheumatology Care and Outcomes Improvement Network (PR-COIN) and to assess the frequency of adherence barriers in patients and their caregivers across treatment modalities. METHODS An iterative process using coproduction among parents and providers of patients with JIA was used to design the Barriers Assessment Tool to screen for adherence barriers across 4 treatment modalities (i.e., oral medications, injectable medications, infusions, and physical/occupational therapy). This tool was implemented in 7 rheumatology clinics across the United States and patient responses were collected for analysis. RESULTS Data were collected from 578 parents and 99 patients (n = 44 parent-child dyads). Seventy-seven percent (n = 444) of caregivers and 70% (n = 69) of patients reported at least 1 adherence barrier across all treatment components. The most commonly reported adherence barriers included worry about future consequences of therapy, pain, forgetting, side effects, and embarrassment related to the therapy. There was no significant difference between endorsement of barriers between parents and adolescents. CONCLUSION Implementing a standardized tool assessing adherence barriers in the JIA population across multiple clinical settings is feasible. Systematic screening sheds light on the factors that make adherence difficult in JIA and identifies targets for future adherence interventions in clinical practice.

The ShortMAC: Minimum Important Change of a Reduced Version of the Western Ontario and McMaster Universities Osteoarthritis Index.

Author(s): Abbott, J Haxby; Hobbs, Catherine; Gwynne-Jones, David; MOA Trial Team

Source: The Journal of orthopaedic and sports physical therapy; Feb 2018; vol. 48 (no. 2); p. 81-86

Publication Type(s): Journal Article

Abstract: Study Design Clinical measurement study; secondary analysis of randomized clinical trial data. Background A 12-item shortened version (ShortMAC) of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), a condition-specific, patient-reported osteoarthritis index, has been derived, published, and validated. The minimum important change (MIC) of the ShortMAC has not been reported or compared with the traditional 24-item WOMAC. Objectives To investigate the MIC of the 12-item ShortMAC and the traditional 24-item WOMAC across 3 levels of patient-perceived global change. Methods The Management of OsteoArthritis Trial cohort of 206 consecutive patients with knee or hip osteoarthritis was assessed at the initial visit and after 9 weeks of physical therapy (n = 155) or usual medical care (n = 51). The global rating of change instrument, assessed at the 9-week visit, provided the anchor. The MIC was calculated using receiver operating characteristic curve methodology for the ShortMAC and the traditional WOMAC, across 3 levels of patient-perceived change (small, medium, and large change) defined by the global rating of change. Results The MICs for the ShortMAC and traditional WOMAC (both transformed to a scale from 0 to 100) were 7.9 and 9.8 points for small change, 8.4 and 9.8 points for medium change, and 12.1 and 10.1 points for large change, respectively. The MICs of the pain and function subscales are also reported for small, medium, and large changes. Conclusion The lower point estimates for the MIC of the ShortMAC compared with that of the traditional WOMAC, using conventional definitions of MIC and half the number of items, indicate greater efficiency for use in clinical trials and reduced patient burden. J Orthop Sports Phys Ther 2018;48(2):81-86. Epub 21 Oct 2017. doi:10.2519/jospt.2018.7676.

Cultural Factors Influencing Osteoarthritis Care in Asian Communities: A Review of the Evidence.

Author(s): Sathiyamoorthy, Thrmiga; Ali, Shabana Amanda; Kloseck, Marita

Source: Journal of community health; Feb 2018

Publication Type(s): Journal Article Review

Abstract:With the prevalence of osteoarthritis (OA) increasing internationally, there is a need to study the impact of this disease on culturally diverse populations. Individuals of Asian descent make up more than 60% of the world population, yet comprehensive information on the cultural factors that impact OA care is not available. Scoping review methodology using directed content analysis was employed to identify and analyze existing research on OA care for Asians. A categorization matrix was developed using the six care areas from the OA clinical practice guidelines along with an additional three non-clinical areas (cross-cultural adaptation of clinical tools; psychological well-being; family systems and informal care) identified in an initial scan resulting in a total of nine OA care areas to guide initial coding. A full scoping review was conducted across five databases resulting in 656 abstracts screened. All text was coded using the categorization matrix and resulting subthemes were identified. A total of 74 articles were analyzed with 23 subthemes identified across the nine categories. Four new perspectives emerged to support OA care for Asian populations: (1) the importance of family and peer assistance, (2) the importance of culturally specific activities, (3) distrust in western medicine, and (4) impact of positive coping mechanisms on health appraisals. While Asians are more susceptible to knee and hand OA because of their cultural lifestyle factors (e.g. squatting for chores, hygiene and religious activities), and traditional beliefs on OA management (e.g. traditional diet, topical oils, physical therapy), many do not present themselves for conventional treatments (e.g. surgery) until all traditional treatments are exhausted. The results suggest that cultural factors influence the uptake of OA management practices among Asians. Greater awareness of these cultural factors may improve diagnosis, treatment, and management of OA among Asian patients.

Professional Pulse. For Individuals With Knee OA, 3 Tests Can Predict Ability to Walk 6,000 Steps a Day.

Author(s):

Source: PT in Motion; Feb 2018; vol. 10 (no. 1); p. 58-58

Publication Type(s): Periodical

Available at [PT in Motion](#) - from EBSCO (CINAHL with Full Text)

Abstract:The article discusses research done on 1,925 individuals with or at risk for knee osteoarthritis (OA) on their ability to walk 6,000 steps a day. It references a study published online in "Arthritis Care and Research." Study participants performed three tests, including the five times sit-to-stand test, the 20-meter walk test, and the 400-meter walk test to walking patterns. The authors concluded that physical therapy can benefit those with or at risk for knee OA.

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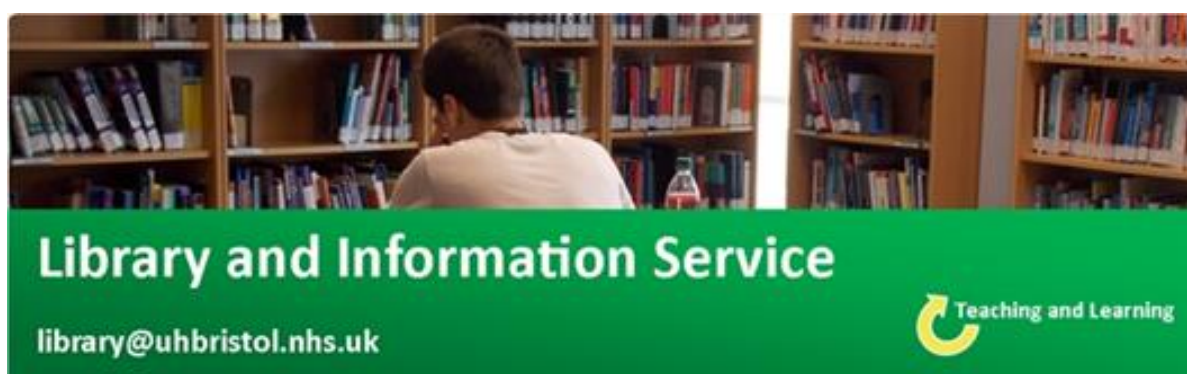
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