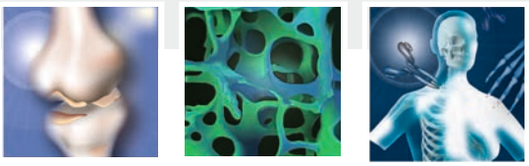


Bulletin Board

Nurse-led programs aid self-management of rheumatoid arthritis

Data on the benefits of a nurse-led program aimed at helping patients with self-management and the management of rheumatoid arthritis (RA) comorbidities has been presented at the European League Against Rheumatism (EULAR) 2013.

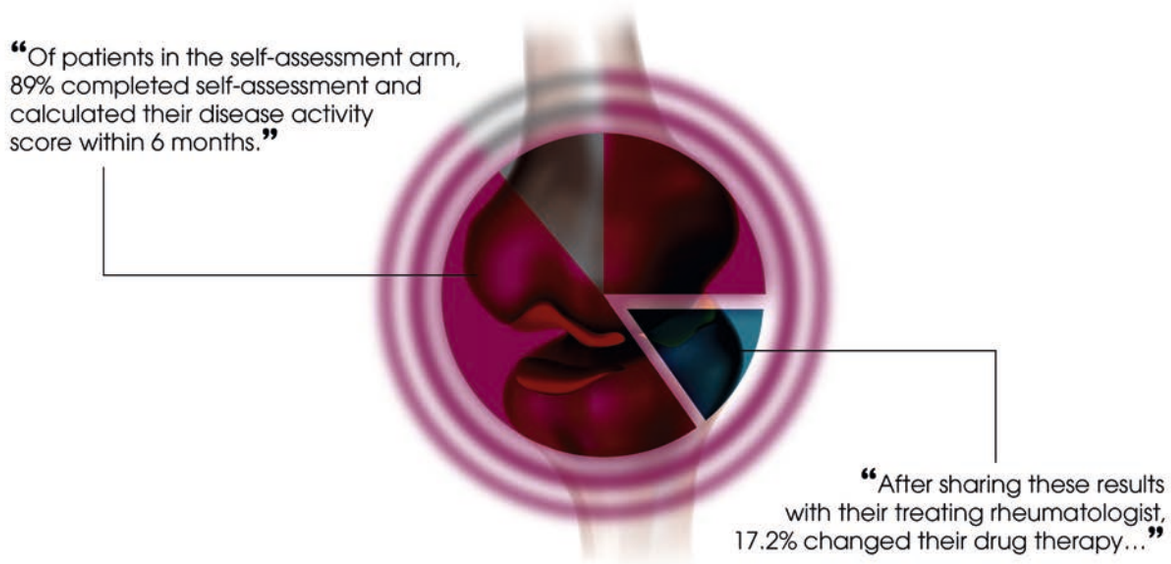
RA patients attended one of 20 participating treatment centers in France as part of the 6-month COMEDRA study. The two arms of the trial, which patients were randomly assigned to, were the evaluation of nurse-led programs on patient self-assessment and the management of comorbidities.

Of patients in the self-assessment arm, 89% completed self-assessment and calculated their disease activity score (DAS) within 6 months. After sharing these results with their treating rheumatologist, 17.2% changed their drug therapy ($p = 0.0012$). Regularly assessing disease activity allows disease status (e.g., flares) over time to be measured. Although this is unfeasible in a clinic setting, patients and nurses can carry this out.

There is an increased risk of other diseases such as cardiovascular disease and infections in RA patients. At 6 months, there were a significantly higher number of actions taken, per patient, to reduce comorbidities in the nurse-led program arm, which assessed potential comorbidities and risk factors ($p < 0.001$). Depending on the comorbidity, the action taken varied. Interventions for patients with cardiovascular disease included the introduction of lipid-lowering or antiplatelet therapies, whereas vaccination may have been given to those at risk of infection.

RA, which affects approximately one in 100 patients worldwide, is a chronic autoimmune disease affecting the flexible joints. The symptoms of RA include pain, stiffness and progressive joint destruction. The disease impacts on a patient's physical function, quality of life and life expectancy. There are also many comorbidities associated with RA, which include cardiovascular disease, cancer, lung disease, gastrointestinal disorders and infection.

in the news...



Professor Maxime Dougados, a principal investigator on the study and Professor of Rheumatology at Rene Descartes University and Chief of Rheumatology at Cochin Hospital (Paris, France) said that the use of self-management skills allowing patients to regularly assess their own disease activity according to the suggestions of 'treat to target' and the EULAR recommendations, should be promoted.

In a comment on the impact of nurse interventions on comorbidities, Dr Gossec, Associate Professor of Rheumatology in Paris 6 University and Pitie-Salpetriere Hospital (Paris, France) said, "Patients with RA are at an increased risk of developing a number of comorbid conditions, which have a major influence on both mortality and disease outcome. During this trial, the number of actions undertaken to prevent these comorbidities was significantly greater in the arm where nurses have thoroughly assessed the risks, with particular improvements observed against cardiovascular disease, infections, cancer and osteoporosis."

Self-measurement of inflamed joints and reporting of results of DAS in 28 joints-erythrocyte sedimentation rate was undertaken by patients in the self-assessment arm. In the comorbidities arm, measurement of the number of actions taken according to recommendations was performed; these actions included introduction of lipid-lowering therapy, smoking cessation, weight loss, vaccinations and consultations with oncology specialists.

"These data demonstrate that in the short term, nurse-led interventions can equip patients with the tools required to more effectively manage their disease. Longer-term patient follow-up is required to investigate the sustainability of these benefits, but these data have the potential to significantly alter the management of RA," concluded Professor Dougados.

Source: Soubrier M, Perrodeau E, Gaudin P *et al*. Impact of a nurse-led programme of patient self-assessment of disease activity on the management of rheumatoid arthritis: results of a prospective, multicentre, randomized, controlled trial (COMEDRA). Presented at: *EULAR Annual European Congress of Rheumatology*. Madrid, Spain, 12–15 June 2013 (Abstract OP0284).

Novel mechanism of immune response regulation discovered

A new way by which the immune system is regulated, possibly leaving an individual at greater risk of autoimmune disease, has been revealed by scientists at the Academy of Finland Centre of Excellence (Helsinki, Finland).

This report from the Turku Centre for Biotechnology (Turku, Finland) and Aalto University (Espoo, Finland) is the first to detail a new mechanism by which the specification of lymphocytes is regulated. Lymphocytes are white blood cells crucial to the body launching an immune response. New epigenetic factors which regulate lymphocyte function were discovered by researchers through the use of state of the art techniques including next-generation deep sequencing and computational data mining.

Variations were observed in the regulatory regions of the genes studied, which have been associated with susceptibility to autoimmune diseases, such as RA. The study of the emergent mechanisms of immune-related diseases will be aided by these discoveries. An abnormal immune response is known to be involved in immune-mediated diseases, such as RA, asthma and allergies. The immune response is orchestrated by T lymphocytes that can differentiate into functionally distinct lineages to fight infection and disease. In order to attain a healthy immune system and avoid autoimmune disorders, a correct response to cytokines and a controlled balance of T-lymphocyte populations is crucial.

Source: Hawkins RD, Larjo A, Tripathi SK *et al*. Global chromatin state analysis reveals lineage-specific enhancers during the initiation of human T helper 1 and T helper 2 cell polarization. *Immunity* 38(6), 1271 (2013).

Overweight and obese patients are less likely to achieve remission in early rheumatoid arthritis

"Obesity and rheumatoid arthritis are both on the rise, with devastating effects on individuals and society as a whole."

A new report has shown that, compared with those of normal weight, overweight and obese patients are less likely to achieve successful remission in early RA. The research was presented at the annual congress of the EULAR.

The level of anti-TNF therapy needed by obese and overweight early RA subjects was found to be 2.4-times more than normal weight patients without achieving similar remission outcomes.

Approximately one in 100 people worldwide are affected by RA, a chronic, inflammatory disease, which can cause pain, stiffness, progressive joint destruction and deformity. The disease can impact negatively on physical function, workability, quality of life and life

expectancy. In developed countries, at least 50% of RA patients are unable to work full time within 10 years of onset.

One of the greatest public health challenges of the 21st century, obesity causes approximately 10% of deaths in Europe, with the numbers affected rising each year.

"Obesity and RA are both on the rise, with devastating effects on individuals and society as a whole. These data reinforce the link between obesity and inflammation, and establish that BMI is one of the few modifiable variables influencing the major outcomes in RA," said Elisa Gremese, Division of Rheumatology, Institute of Rheumatology and Affine Sciences, Catholic University of the Sacred Heart (Rome, Italy). "There is an urgent need to address the issues of overweight and obesity to improve patients' chance of successful remission."

In the study, patients were stratified into one of three BMI weight classes (normal weight, overweight and obese). The 346 participants with early RA symptom duration <12 months were then treated according to a treat-to-target strategy aimed at remission. The treatment protocol involved strict follow-up visits, treatment with methotrexate up to 25 mg/week plus steroids, and combination with a TNF blocker if at least a good response according to EULAR criteria was not obtained.

Overweight and obese patients were observed to show a lower rate of remission at 6- and 12-month visits when defined by both DAS and Crohn's Disease Activity Index criteria. After 12 months of follow-up, obese and overweight patients were found to make up a higher percentage of those under anti-TNF treatment.

Source: Gremese E, Fedele AL, Gigante MR *et al.* The body mass index: a determinant of remission in early rheumatoid arthritis (abstract). Presented at: *EULAR Annual European Congress of Rheumatology*. Madrid, Spain, 12–15 June 2013 (Abstract OP0178).

Joint replacement surgery outcomes affected in those with rheumatoid arthritis

Two new studies have reported findings regarding the effect of RA on joint replacement surgery outcomes. In one of these studies, the common belief that RA patients have worse outcomes after total knee replacement compared with patients who undergo this procedure for osteoarthritis has been overturned. While the second study has shown that, even though they do not do as well, patients with RA who undergo total hip replacement were as likely to have as significant an improvements in function and pain as patients with osteoarthritis.

The reports from researchers at the Hospital for Special Surgery (HSS; NY, USA) will be presented at the EULAR annual congress.

These studies, which began in 2007, made use of the prospective HSS Total Joint Replacement Registry that provide a wealth of data, including information on all on all patients who seek care at HSS for knee and hip replacement surgery. "Other hospitals have registries, but what we have is an incredible volume of information on patients that allows us to do interesting studies, because there are so many patients having hip and knee replacement surgeries at our hospital," said Susan Goodman, lead author of both studies and a rheumatologist at HSS.

RA patients have historically shown worse outcomes after joint replacement surgeries; however, the cause of this – poorly controlled disease or disease treatment – was not known. Effective disease-modifying drugs to treat patients with RA became available in the 1980s. This was followed in the late 90s by biologic treatments, such as etanercept and infliximab. Currently, over 70% of patients at HSS are taking disease-modifying drugs and more than 50% are being prescribed biologics.

A cohort of RA patients with a high prevalence of potent disease-modifying drugs and biologic agents were examined in the two new studies to determine if their outcomes remained worse.

Using the Western Ontario and McMaster Universities Arthritis Index (WOMAC), which assesses pain, stiffness and functional limitation, patient pain and function was measured prior to surgery and 2 years after.

In one study, 178 RA patients and 5206 osteoarthritis patients who underwent a total knee replacement were identified using the HSS Total Joint Replacement

> "Of the 202 rheumatoid arthritis and 5810 osteoarthritis patients, 34% of rheumatoid arthritis patients had no comorbidities compared with 80% of osteoarthritis patients, showing again that rheumatoid arthritis patients were sicker."

Registry. RA patients were determined to be more sick as only 34% had no comorbidities compared with 72% of osteoarthrtis patients.

The differences in pain and function prior to surgery, which were worse in RA patients, were seen to disappear after surgery. "In RA patients, their preoperative scores were significantly worse than the osteoarthrtis controls, but in fact our knee replacement patients caught up," said Dr Goodman. Similar satisfaction rates were seen in patients in both groups.

A total of 32 RA patients and 342 osteoarthritis (OA) patients who underwent underwent TKR revision were also identified by investigators. It was discovered in this analysis that although RA and OA patients had similar pain and function preoperatively, at 2 years after surgery, RA patients had significantly less pain, better function and were more satisfied.

Investigators also compared outcomes in patients who underwent hip replacement in a second study. Of the 202 RA and 5810 OA patients, 34% of RA patients had no comorbidities compared with 80% of OA patients, showing again that RA patients were sicker.

"When we looked at function using the WOMAC scale, function was significantly worse in the RA patients prior to surgery, but interestingly, when we looked at how they did 2 years down the road, they were as likely to have an improvement in function and pain," said Dr Goodman. A ten-point change in score, which is deemed to be clinically significant, was seen in almost 100% of patients (RA: 96% and OA: 95%). Worse outcomes were, however, seen in RA patients. At 2 years, a poor function WOMAC score of 60 or less (18 vs 4%) and a poor WOMAC pain score of 60 or less (12 vs 3%) was more likely in patients with RA. A significantly decreased risk of poor pain and function was seen in patients who expected to do well with surgery.

"The RA patients have a great response in terms of hip replacement and their hip function improved. Nonetheless, they were a group that did not do as well," said Dr Goodman.

These findings were similar for patients undergoing hip replacement revision (58 RA patients and 445 OA patients).

"Many RA patients have a worsening or flare of their disease 6 weeks after surgery," said Dr Goodman. "It may be that those patients aren't able to do their physical therapy because they are not feeling well, and maybe that contributes to poor outcome down the road."

Although there is a difference in knee replacement versus hip replacement in patients with RA, exactly what this difference is, is unclear. "Perhaps the RA patients undergoing hip replacement are delaying their surgery too long. Maybe if we intervene sooner, we would do better functionally," said Dr Goodman.

Further research is planned to elucidate the possible differences between the two groups.

Source: The impact of rheumatoid arthritis on joint replacement surgery outcomes: www.medicalnewstoday.com/releases/261906.php

– All stories written by Sarah Jones

About the Bulletin Board

The Bulletin Board highlights some of the most important events and research in the field of rheumatology. If you have newsworthy information, please contact: Sarah Jones, Commissioning Editor, *International Journal of Clinical Rheumatology*, Future Medicine Ltd, s.jones@futuremedicine.com