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Risk factors for developing diseases or comorbidities

OP0073 PERFORMANCE OF THE EULAR DEFINITION OF ARTHRALGIA SUSPICIOUS FOR PROGRESSION TO RHEUMATOID ARTHRITIS – A LONGITUDINAL STUDY

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Background: Recently a European League Against Rheumatology (EULAR)-taskforce has defined arthralgia suspicious for progression to rheumatoid arthritis (RA)[1], in order to allow inclusion of homogeneous sets of arthralgia patients in clinical studies. This was done as the field is currently shifting towards performing trials in very early disease phases as there is growing evidence that very early treatment initiation allows better disease modification and treatment of arthralgia may even prevent the development of RA. The definition was developed with the clinical expertise as reference. It is intended for use in arthralgia patient that rheumatologists' consider to be at risk for progression to RA

Objectives: To longitudinally evaluate the EULAR definition of arthralgia suspicious for progression to RA in: (1) patients in whom rheumatologists felt that imminent RA was more likely than other arthralgia's (Clinically Suspect Arthralgia, CSA); this target population fulfils the entry criterion and (2) in arthralgia patients referred to secondary care prior to rheumatologic evaluation; in these patients the entry criterion was ignored.

Methods: The definition was assessed in 241 Dutch CSA-patients and 113 patients referred to the Umeå university hospital with recent-onset arthralgia in small joints. The external reference was arthritis development <2-years follow-up.

Results: CSA-patients with a positive definition (≥3/7 parameters present) had an increased risk on arthritis development compared to definition-negative CSA-patients (HR 2.1, 95% CI 0.9–4.7). The sensitivity of a positive definition was 84% and the positive predictive value (PPV) 30%. In arthralgia patients in whom the definition was applied prior to rheumatologic evaluation, a positive definition was neither sensitive (10%) nor predictive (PPV 3%). Sensitivity analyses with fulfilment of the 2010 criteria for RA or initiation of DMARDs <2-years of follow-up as external reference showed similar results.

Conclusions: The EULAR definition of arthralgia suspicious for progression to RA is sensitive when used to support the expert's opinion on imminent RA. It was not discriminative in patients without prior rheumatologic evaluation. These data suggest that the definition should be used as designed and serves to further homogenize patients that rheumatologists consider at risk for RA.

References:

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OP0074 ASSOCIATION BETWEEN A HISTORY OF MYCOBACTERIAL INFECTION AND THE RISK OF SJÖGREN'S SYNDROME: A NATIONWIDE, POPULATION-BASED CASE-CONTROL STUDY

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Background: An increased risk of tuberculosis (TB) has been found in subjects with Sjögren's syndrome (SS); however, whether TB or nontuberculous mycobacteria (NTM) infection is associated with the risk of SS is still unknown.

Objectives: To explore the association between a history of mycobacterial infection and the risk of newly diagnosed SS.

Methods: After excluding those who had rheumatoid arthritis and systemic lupus erythematosus, we identified 5,751 newly diagnosed SS cases and 86,265 non-SS patients matched (1:15) for age, sex, and the year of first diagnosis date as controls using nationwide, population-based, claims data. The association between the risk of incident SS and a history of treated mycobacterial infection, including TB and NTM, was quantified by odds ratios (ORs) with 95% confidence intervals (CIs) using conditional logistic regression analysis after adjusting for Charlson comorbidity index (CCI) and bronchiectasis.

Results: The mean ± SD age was 55±14 years and the proportion of female gender was 87.8% in newly diagnosed SS cases and non-SS controls. An association was observed between NTM infection (OR, 11.24; 95% CI, 2.37–53.24) and incident SS, but not between TB infection and incident SS (OR, 1.29; 95% CI, 0.97–1.71) after adjustment for CCI and bronchiectasis. The magnitude of the association between NTM and SS risk was greatest among those aged between 45 and 65 years (OR, 39.24; 95% CI, 3.97–387.75).

	Univariable analysis OR (95% CI)	Multivariable analysis OR (95% CI)
Nontuberculous mycobacteria	20.00 (4.48–89.36)	11.24 (2.37–53.24)
Tuberculosis	1.86 (1.41–2.45)	1.29 (0.97–1.71)
CCI ≥1	1.89 (1.77–2.01)	1.83 (1.71–1.94)
Bronchiectasis	3.19 (2.76–3.69)	2.74 (2.36–3.18)

Conclusions: The present study demonstrates a statistically significant association of newly-diagnosed SS with a history of NTM, but not TB infection.

References:

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OP0075 OSTEOPOROTIC FRACTURE RISK ASSESSMENT USING FRAX FOLLOWING HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Background: Bone loss and fractures following hematopoietic stem cell transplantation (HSCT) is common,(1, 2) and identifying patients at high risk for osteoporotic fractures following HSCT remains challenging. In the general population, the World Health Organization fracture risk assessment tool - FRAX is utilized to estimate a patient's 10-year probability of developing a major osteoporotic fracture and hip fracture.(3) However, the utility of the FRAX model in predicting fractures following HSCT has not been evaluated.

Objectives: To assess the predictive value of FRAX in osteoporotic fracture risk assessment following HSCT.

Methods: We conducted a retrospective cohort study of patients >18 years that received a HSCT at The University of Texas MD Anderson Cancer Center, from January 1, 2001 to December 31, 2010. Patients were considered to have entered the cohort at the time of HSCT. All patients were retrospectively followed until December 31, 2013 for assessment of osteoporotic fracture. Osteoporotic fractures following HSCT were identified using ICD-9 codes, and confirmed by radiology and physician documentation. FRAX probabilities were calculated from baseline information obtained by chart review.

Results: A total of 5,170 patients underwent a HSCT during the 10-year study period. During an average of 3.3 years of follow up, 10% of patients developed a fracture. Fracture rates were higher (14%) in patients that underwent an autologous HSCT in comparison to those that received an allogeneic HSCT (6%). Mean major osteoporotic fracture FRAX scores were significantly higher in individuals who sustained an osteoporotic fracture compared to individuals who did not. The area under the receiver operating characteristic curve at 5 and 10 years following the HSCT were 0.61 and 0.66 respectively (Figure). We assessed the ability of the FRAX model for prediction of osteoporotic fracture with and without considering death as a competing risk. The hazard ratios were similar for both models (HR, 2.63, 95% CI, 1.93, 3.59; HR, 2.54, 95% CI, 1.86, 3.47, respectively).

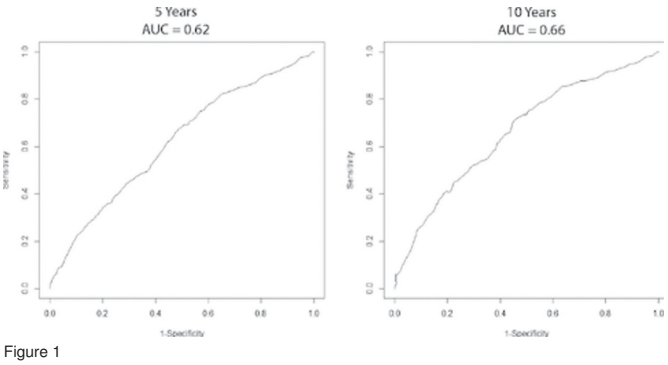

Figure 1

Conclusions: To the best of our knowledge, this is the first study to demonstrate that the FRAX model has modest discriminative ability in predicting osteoporotic fractures following HSCT. Further independent validation of our findings is necessary, before routinely using the FRAX model in clinical practice.