

### OP13.3

#### **Pathogenesis and early detection of inflammatory arthritis: the role of musculoskeletal symptoms, infections and arthritis-related comorbidities in primary care**

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**Background & Aim:** Rheumatoid arthritis is a chronic systemic autoimmune disease characterized by clinically apparent inflammatory arthritis (IA). A preclinical phase has been recognized in which symptoms arise and ambulatory care utilization increases. However, information on location and timing of symptoms before IA diagnosis is still largely lacking. The present study was undertaken to identify pathogenetic clues to the development of IA and to assist early identification of future IA patients with a focus on musculoskeletal symptoms, infections and IA-related disease.

**Method:** We conducted a nested case-control study using data from electronic health records of general practitioners, participating in NIVEL Primary Care Database, to evaluate timing and numbers of visits for 192 symptoms and diseases up to seven years before IA diagnosis. 2,772 IA patients newly diagnosed between 2012 and 2014 were matched (ratio 1:2) with controls on age, gender, general practice and duration of follow-up. The frequency of primary care visits between patients and controls were compared using logistic regression in different time periods before diagnosis.

**Results:** The consultation rate for musculoskeletal symptoms was increased in IA patients within the last 1.5 years before diagnosis with odds ratios (ORs) of 1.8, 1.4 and 1.3, respectively, at 6, 12 and 18 months before diagnosis. For infections, the consultation rate was significantly higher 6 and 18 months prior diagnosis (OR=1.2). Finally, for IA-related diseases and other chronic diseases a significant difference was observed only 3 months before diagnosis (OR=1.2 and 1.3, respectively).

**Conclusion:** We found significantly increased consultation rates in general practice for musculoskeletal symptoms and infectious diseases prior to the diagnosis of IA. This diverging trend was already found for 4-6 years, but becomes statistically significant around 1.5 years before diagnosis. Possibly, these symptoms can be used to develop methods for earlier detection of IA in general practice.