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Title

Prevalence of comorbidity among osteoarthritis cases and matched controls in primary care

Priority 1 (Research Category)

Musculoskeletal and rheumatology

Presenters

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Abstract

Context: Osteoarthritis (OA) is among the leading chronic diseases to cause pain and disability. Knowledge of common co-existing diseases in OA can contribute to early diagnosis, or even prevention of disease. Objective: In this study we aimed to estimate the prevalence of comorbidity in adults with incident OA in primary care, compared to matched controls without OA. Study design: A case-control study. Setting: Data was used from the Integrated Primary Care Information (IPCI) database, an electronic health record database that comprises the medical records of over 2.5 million patients from general practices throughout the Netherlands. It contains longitudinal data on patient characteristics, symptoms, diagnoses, test results, drug prescriptions, referral to specialists and hospitalization. Population studied: We defined OA cases as adults diagnosed with incident OA between January 2006 and December 2019. Diagnosis of OA was based on one of the following ICPC codes: L89 (hip OA), L90 (knee OA) and L91 (other OA). The first registration of an OA code within the study period was defined as the index date. Each case was matched with 1-4 controls without OA according to age, GP practice and sex, using incidence density sampling. Outcome measures: We selected 58 non-acute conditions as comorbidities of interest and analyzed them individually. The prevalence of each comorbidity at the index date was estimated and presented as odds ratio (OR) between cases and controls, using a p-value < 0.001 for significance to account for multiple testing. Results: We identified 80,099 incident OA cases of whom 79,937 (99.8%) were successfully matched with a total of 195,660 controls. Patients with incident OA had a significantly higher prevalence for 34 of the 58 studied conditions. In 10 conditions we found no significant difference in prevalence and a lower prevalence was found in 14 comorbidities. The associations (ORs (95% CI)) ranged from 1.67 (1.63-1.71) for fibromyalgia to 0.67 (0.63-0.71) for multiple sclerosis. Conclusions: The prevalence of most comorbidities differed significantly in individuals with newly diagnosed OA compared to their matched controls at the index date. The majority of the comorbidities showed a higher prevalence in incident OA cases compared to controls. A possible explanation for the low ORs in short-term fatal diseases can be found in the fact that OA may be subordinated to severe diseases, and as a result be registered less frequently.