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Osteoarthritis and its relation with diabetes mellitus

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Osteoarthritis (OA) and Type 2 Diabetes Mellitus (T2DM) are two prevalent chronic diseases. Osteoarthritis (OA) is the most frequent musculoskeletal disease leading to joint pain, stiffness and disability. DM is defined by metabolic abnormalities resulting from dysfunction in the glucose-handling machinery of the body. There seems to be an increased susceptibility to develop OA in those with T2DM. DM may have adverse effects on articular tissues and exacerbate OA. We searched the articles from 2000-2018 in electronic data bases; Google Scholar, Medlib, PubMed, Science Direct and Scopus. We used these key words: Osteoarthritis, Osteoarthritis risk factors, diabetes mellitus, diabetes mellitus risk factors and association of Osteoarthritis and diabetes mellitus. Thirty articles were found but according to our key words we chose 13 related articles (cohort and cross sectional). All of them suggested an association between these two disorders. In summary, it is clear that aging, obesity, and T2DM interact to affect OA. The reason for the high prevalence of arthritis in those with T2DM is not entirely clear. OA and T2DM share common risk factors such as obesity and advanced aging, which may explain the higher prevalence of OA in the diabetic population. OA has been associated with systemic metabolic disturbances commonly seen in T2DM, suggesting that diabetes influences the pathophysiology of OA independently of obesity or aging. OA may contribute to the development of type 2 diabetes through complex processes involving metabolic syndrome, physical inactivity, and muscle weakness. The other suggested reason attributed to the correlation between DM and OA is diabetic peripheral neuropathy leading to muscle weakness and joint laxity in OA.