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Positive hindfoot valgus and osteoarthritis of the first metatarsophalangeal joint.

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Abstract

BACKGROUND: The aim of this retrospective cohort study was to evaluate the association between increased hindfoot valgus and the subsequent development of osteoarthritis of the first metatarsophalangeal (MTP) joint. Specifically, our hypothesis was that among individuals free from first MTP joint osteoarthritis, those who have positive hindfoot valgus are more likely to develop first MTP joint osteoarthritis than are those individuals with normal hindfoot alignment.

METHODS: Our sample consisted of 1592 men and women, 40 years of age or older, participating in the Clearwater Osteoarthritis Study (1988 to 2001). Biennial physical examinations, including serial radiographs, were conducted. The Kellgren and Lawrence ordinal scale was used to determine radiographic evidence (grades 2+) of the study outcomes and incidence of first MTP joint osteoarthritis. Standing hindfoot valgus was assessed visually by a registered nurse, with a hindfoot valgus measurement of more than 5 degrees classified as a positive hindfoot valgus.

RESULTS: Individuals with hindfoot valgus were 23% more likely to subsequently develop first MTP joint osteoarthritis than were those without hindfoot malalignment (risk ratio = 1.23; p-value < 0.006). This risk estimate reflects the potential influence of age, gender, and body mass index.

CONCLUSIONS: Our data suggest that hindfoot valgus may increase the risk of developing foot osteoarthritis. The association of hindfoot valgus with first MTP joint osteoarthritis in this epidemiological assessment is supportive of the mechanical theory for the development of osteoarthritis. The authors speculate that future, related studies may determine that osteoarthritis prevention strategies can be broadened to include individuals with positive hindfoot valgus.

MeSH Terms

LinkOut - more resources
