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Risk for hip OA in siblings

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Keywords

Genetics, osteoarthritis, siblings, total hip replacement

Context

This study addresses whether hip osteoarthritis (OA) clusters in families using siblings of OA patients who have undergone total hip replacement. A recent study (see Additional information) using female twins from a population based, cross sectional study compared monozygotic and dizygotic twins for radiographic changes and estimated the total genetic contribution to hip OA to be about 60%.

Significant findings

The prevalence of hip OA in controls varied between 3.8-11% in women and 2.1-5.9% in men. Prevalence increased with age. The prevalence of hip OA among siblings was threefold to eightfold higher than controls; there was increased frequency of all grades of joint narrowing and osteophytes. Male siblings were at higher risk of developing hip OA, with an odds ratio (OR) of 6.4 for joint space narrowing (JSN) <2.5mm and 11.8 for JSN <1.5mm. The risk for females was less and did not vary with severity (OR 4.5 for JSN <2.5mm and 4.2 for JSN <1.5mm). Adjusting for nodal status and BMI did not alter OR.

Comments

This study investigated the genetic contribution to severe hip OA using siblings of patients who have severe OA requiring total hip replacement. Although the investigators tried to recruit all living siblings, only 70% of the eligible siblings participated in the study. Almost all lived in the same area as the patients and controls. This paper predicts higher risk for hip OA than that previously reported. Both this paper and MacGregor *et al* (see Additional information) support the notion that early and severe hip OA changes are under strong genetic influence. This also supports the idea for finding genetic factors

rendering people susceptible to OA and warrants the need for closer attention to siblings of hip OA cases.

Methods

Hip radiographs, OA patients and siblings compared to controls

Additional information

MacGregor AJ, Antoniadou L, Matson M, Andrew T, Spector TD: **The genetic contribution to radiographic hip osteoarthritis in women: results of a classic twin study.** *Arthritis Rheum* 2000, **43**:2410-2416 ([PubMedabstract](#)).

References

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