PostScript

MATTERS ARISING

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Birth weight, osteoarthritis of the hand, and cardiovascular disease in men

Haara *et al* reported recently that the presence of osteoarthritis (OA) in at least one hand joint significantly predicted cardiovascular mortality in a sample of 1560 Finnish men aged 30 or over.[1] OA was ascertained radiographically and classified using Kellgren's scoring system. The association between hand OA and male cardiovascular mortality was independent of age, education, history of workload, and body mass index.

We have investigated the prevalence of hand OA in a British national cohort of 1467 men and 1519 women and looked at associations between hand OA and measurements of weight and height from birth to adulthood.[2] The MRC National Survey of Health and Development is a prospective cohort study that has followed up a large sample of people born in England, Scotland, and Wales during a single week in 1946, with most recent data collection at age 53 years. Clinical hand OA was defined using previously validated clinical criteria and included the identification of Heberden's nodes, Bouchard's node, or squaring at the carpometacarpal joint. The prevalence of OA in at least one hand joint was 19% in men and 30% in women. We found that hand OA was significantly associated with higher weight at age 26, 43, and 53 years and, furthermore, it was related to lower weight at birth (table 1). These associations were seen in men but not women.

These findings provide the first evidence that lower birth weight may be associated with the development of adult hand OA. The underlying mechanism is not known but may reflect programming, a phenomenon whereby environmental influences acting at critical periods during early development have long term effects on structure and function of different systems.[3 4] The relation between adult coronary heart disease and poor growth in utero is well established.[5–7] Furthermore, recent studies suggest added components of risk attributable to childhood weight gain and adult obesity.[8] We suggest that the relation between hand OA and cardiovascular mortality demonstrated by Haara and colleagues may be explained by both diseases sharing a common origin in adverse early environmental conditions.

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Table 1 Association between birth weight and clinical hand osteoarthritis (OA) in men aged 53 years

	Number		
Birth weight (kg)	With OA	Without OA	Hazard ratio (95% CI)
<3.1	82	269	1.7 (1.2 to 2.5)
–3.5	85	325	1.5 (1.0 to 2.2)
–3.8	58	290	1.1 (0.8 to 1.7)
>3.8	53	300	1.0

p Value for trend = 0.002.

Author's reply

In a prospective cohort study Sayer *et al* found that lower birth weight was associated with the development of adult hand OA in men. As the authors mentioned, the relation between adult coronary heart disease and poor growth in utero is well established. Based on these facts they suggest that the relation between hand OA and cardiovascular mortality in men may be explained by both diseases sharing a common origin in adverse early environmental conditions. In my opinion these interesting assumptions make sense, the results were well presented, and the the study setting was well established. It would be interesting to study these relationships also in our cohort, but unfortunately, we have no birth weight and related factors of early childhood in our database. However, the association between hand OA and cardiovascular diseases needs further studies to clarify this point.

The limitation in their study was the clinical diagnosis of hand OA. Hand radiography has been proved to be the best method for defining hand OA. Therefore, I suggest that the authors should consider further how clinical diagnosis might have affected the results.

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BOOK REVIEW

Imaging in rheumatology

Eds D A Isenberg, P Renton. (Pp 471, 125.) Oxford: Oxford University Press, 2002. ISBN 0–19–263263–9.

Almost 60 contributors collaborated with the editors to produce this first edition on imaging of the rheumatic diseases. The great majority of the contributors are from the UK, with most of them working in departments of rheumatology.

The aim is to provide the rheumatologist as well as the radiologist with a comprehensive review of the currently available imaging modalities. The editors' purpose was to outline how these methods are used to investigate rheumatic symptoms and in the long term management of patients with diverse diseases of joints, muscles, and bones.

There are three sections. The first six chapters focus on modes of imaging and provide the reader, especially the non-radiologist, with a background of knowledge of the available methods. The five chapters of the second