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## SHORT REPORTS

### Heberden's nodes in osteoarthritis and rheumatoid arthritis

William Heberden was the first to describe the firm swellings of the distal interphalangeal joints that are now regarded as characteristic of generalised osteoarthritis.<sup>1</sup> Rheumatoid arthritis causes soft swellings around metacarpophalangeal and proximal interphalangeal joints but is usually thought to spare the distal interphalangeal joints.<sup>2</sup> Clinical abnormalities of the distal interphalangeal joints in patients with rheumatoid arthritis have been noted, however,<sup>3,4</sup> and generalised osteoarthritis and rheumatoid arthritis may coexist more often than would be expected by chance,<sup>5</sup> but no controlled data are available. We made a comparative study of clinical and radiological changes in the distal interphalangeal joints in rheumatoid arthritis and generalised osteoarthritis.

#### Patients, methods, and results

One hundred consecutive outpatients attending a rheumatology clinic with classical or definitive rheumatoid arthritis (American Rheumatism Association criteria) were compared with 40 patients with generalised osteoarthritis and 42 controls matched for age and sex admitted to hospital for non-rheumatic disorders. Their hands were examined by the same observer, and individual distal interphalangeal and proximal interphalangeal joints were given scores from 0 to 3 (0=normal, 1=firm swelling, 2=soft swelling, 3=swollen, hot, and tender). Age, sex, duration of disease, and presence of rheumatoid factor were also noted. Anterior-posterior hand radiographs were examined by a radiologist who was unaware of the clinical findings; seven different features were scored as present or absent (table).

*Incidence of seven radiographic abnormalities in distal interphalangeal joints in patients with generalised osteoarthritis or rheumatoid arthritis and in a control group (figures are numbers (%) of patients)*

Abnormality	Group with osteoarthritis (n = 40)	Group with rheumatoid arthritis (n = 100)	Control group (n = 42)
Osteophytes	40 (100)	82	31 (74)
Subchondral cysts	34 (85)	61	8 (18)
Ossicles	33 (83)	38	15 (36)
Joint space narrowing	33 (83)	60	16 (38)
Soft tissue swelling	37 (93)	76	6 (15)
Juxta-articular osteoporosis	1 (2.5)	33	0
Ill defined erosions	0	12	0

The mean age of the group with rheumatoid arthritis was 57.7 (SD 12.3); mean duration of symptoms was 9.7 years. Eighty one patients were positive for rheumatoid factor on latex agglutination testing, and the ratio of men to women was 1:2.5. The mean age of the group with generalised osteoarthritis was 65.8 (10.2) and mean duration of symptoms 7.8 years; none was seropositive, and the ratio of men to women was 1.4:7. The control group was well matched with the group with rheumatoid arthritis (mean age 59.1 (12.9), M:F=1:2.5).

Clinical abnormalities of the distal interphalangeal joints were seen in

67 (67%) of the patients with rheumatoid arthritis compared with 33 (92%) of the patients with generalised osteoarthritis and 17 (41%) of the controls (group with rheumatoid arthritis versus controls:  $\chi^2=15.2$ ,  $p<0.01$ ). Grade 2 or 3 changes were seen in 12 (12%), nine (24%), and two (5%) patients respectively. The changes in the group with rheumatoid arthritis were often clinically indistinguishable from those in the group with osteoarthritis. The table summarises the radiological findings.

The soft tissue swelling of the distal interphalangeal joints was common in both osteoarthritis and rheumatoid arthritis, but not in the control group. Juxta-articular osteoporosis and ill defined erosions were present in the distal phalangeal joints in 33 and 12 patients respectively with rheumatoid arthritis but were not seen in patients with osteoarthritis or in controls. Subchondral cysts were also commoner in the groups with osteoarthritis and rheumatoid arthritis than in the control group ( $p<0.01$ ). Osteophytes, ossicles, and narrowing of the joint space were common in all three groups of patients.

#### Comment

This study confirms previous reports suggesting that the distal interphalangeal joints are often affected in rheumatoid arthritis.<sup>3,4</sup> The changes were often clinically indistinguishable from Heberden's nodes and occurred more commonly in these patients than in the control population. Radiological changes included typical features of rheumatoid arthritis such as juxta-articular osteoporosis (33%) and ill defined erosions (12%). Of the 12 patients with rheumatoid erosions of the distal interphalangeal joints, 10 were strongly seropositive and all had typical rheumatoid changes at other joint sites. There was no evidence of psoriatic arthropathy or juvenile chronic arthritis.

This study shows that rheumatoid arthritis does not spare the distal interphalangeal joints. Furthermore, clinical detection of a Heberden's node does not necessarily imply the presence of generalised osteoarthritis.

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