

SHORT REPORTS

Joint destruction and chondrocalcinosis in patients with generalised osteoarthritis

Both generalised osteoarthritis (GOA) and articular chondrocalcinosis (ACC) become more frequent with increasing age. Destructive changes, especially of the finger, knee, or hip joints, may be a complication of osteoarthritis.^{1 2} Similar destructive arthropathies have recently been described in patients with ACC.^{3 4} Nevertheless, the relation between GOA and ACC and between these two conditions and destructive arthropathies is still not clear. We therefore studied new patients with GOA to evaluate the incidence of ACC and destructive arthropathies among them.

Patients, methods, and results

Consecutive new patients with clinical suspicion of generalised osteoarthritis (GOA) were investigated. X-ray films of the hands, knees, pelvis, and shoulders were taken. The diagnosis of GOA was based on radiological evidence of degenerative joint disease, such as asymmetrical narrowing of the joint space, sclerotic changes of adjacent bone, and presence of osteophytes, in six joints or groups of small joints (but excluding the spine, the feet and the elbows); 72 consecutive patients with the diagnosis of GOA as described above were evaluated. Articular chondrocalcinosis (ACC) was diagnosed on the radiographs, when two joints at least showed clear-cut signs of typical calcifications in cartilage. Destructive arthropathy was diagnosed when an interruption of articular surfaces with bony erosions and irregularities were seen on the radiographs. The erosive osteoarthritis of the distal and proximal interphalangeal finger joints was classified separately from that affecting the other joints. Patients with known other causes for joint destruction such as sensory neuropathy, hyperparathyroidism, haemochromatosis, urate gout, rheumatoid arthritis, and a history of corticosteroid therapy were excluded from the study.

The results are presented in the table. ACC was found in 15 patients, an incidence of 20.8%. Among these 15 patients, the sex ratio and the mean age were very similar to those of the patients with GOA only. Both groups had a similar incidence of Heberden's and Bouchard's nodes and of erosive osteoarthritis of the finger joints. Nevertheless, destructive changes of large joints were significantly more frequent in the patients with ACC; nearly half of them had some, as opposed to only four of the remaining patients.

Composition of groups and clinical results

	Generalised osteoarthritis only (57 patients) mean age and range: 75.6 (60-92)		Generalised osteoarthritis + chondrocalcinosis (15 patients) mean age and range: 77.4 (67-98)	
	No	%	No	%
Women ..	44	77.2	12	80
Heberden's, or Bouchard's nodes, or both ..	35	61	11*	73
Erosive osteoarthritis of the finger joints ..	9	16	3*	20
Destructive changes in other joints (in parenthesis: number of joints diseased) ..	4 (7)	7	7† (13)	46.7

*NS (chi square with Yates's correction).

†P < 0.001 compared with the group having GOA only (chi square with Yates's correction).

Discussion

The destructive arthropathy described in association with ACC might have been primarily related to osteoarthritis, which also predisposes to joint destruction—especially in the hips and knees. Such changes could be observed more often because patients with ACC are more extensively studied with radiographs. Our prospective study clearly indicates that destructive arthropathy is associated with ACC. The results are consistent with our previous study, when a group of patients with ACC and GOA were compared with a matched

group with GOA alone and a clear-cut association between ACC and destructive arthropathy was found.⁵ In GOA the destructive changes were in the femoral head or in the knee joints, whereas in patients with GOA and ACC other joints were frequently diseased, such as the shoulders, wrists, and elbows. Furthermore, the present study supports the view that the erosive osteoarthritis of the fingers is not more frequent in the group with ACC than in the group with GOA alone.

¹ Peter, J B, Pearson, C M, and Marmor, L, *Arthritis and Rheumatism*, 1966, 9, 365.

² Harrison, M H, Schajowicz, F, and Trueta, J, *Journal of Bone and Joint Surgery*, 1953, 35B, 598.

³ Menkes, C J, et al, *Revue du Rhumatisme*, 1973, 40, 115.

⁴ Richards, A J, and Hamilton, E B D, *Annals of the Rheumatic Diseases*, 1974, 33, 196.

⁵ Gerster, J C, Vischer, T L, and Fallet, G H; *Journal of Rheumatology*, 1975, in press.

Division of Rheumatology, University Department of Medicine, Hôpital Beau-Séjour, CH-1211 Geneva 4, Switzerland

J C GERSTER, MD, senior medical registrar
T L VISCHER, MD, consultant physician
I BOUSSINA, MD, senior medical registrar
G H FALLET, professor of rheumatology

Thermographic diagnosis of deep vein thrombosis

There is a need for a simple, non-invasive technique for diagnosing deep vein thrombosis (DVT). Thermography is both simple and non-invasive. Cooke and Pilcher¹ reported a good correlation between the results of thermography and phlebography in acute DVT, while Franco *et al*² reported a good agreement between abnormal lung perfusion scans and thermography in the investigation of a small group of patients with suspected pulmonary embolism. With an acute DVT in the leg there is a subclinical increase in skin temperature due to the inflammatory reaction round the thrombus and also to the increased blood flow in the skin.^{3 4} We report here a comparative study of thermography and phlebography in the diagnosis of DVT.

Patients, methods, and results

From November 1974 to May 1975 51 legs in 50 patients with a mean age of 61 years (range 16-85) were examined by both thermography and ascending phlebography. In each case both examinations were done within 24 hours of each other. The AGA Medical System (AGA 680) was used for thermography and the thermographic oscilloscope pictures were taken by Kodak Tri-X film, 400 ASA. The front of the thigh and leg and the popliteal fossa and calf were studied in all cases.

The results of thermography and phlebography in 51 legs are shown in the table. They represented a diagnostic agreement of 92.2%.

Phlebography	Thermography	
	Positive	Negative
Positive	27	2
Negative	2	20

The temperature in affected legs was higher than in normal legs, and pretibial or prepatellar cooling, or both, were absent or diminished. In a few cases a hot streak corresponded with the position of the thrombus. In two cases the diagnosis of DVT was positive by phlebography but negative by thermography. One was a case of prostatic carcinoma with extensive DVT more than 14 days' old. The other was a case of minimal thrombosis in a