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AGE AND SEX INCIDENCE OF OSTEOPHYTES IN THE KNEE JOINT

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Periarticular osteophytes have been considered to be an early sign of osteoarthritis. However, Danielsson (1964) found that osteophytes in the hip joint rarely developed into osteoarthritis of the hip. Danielsson & Hernborg (1970) demonstrated that only about one-third of the individuals with radiographically evident osteophytes in the knee joint later on developed osteoarthritis with structural changes in the joint.

Jacqueline et al. (1950) and Jacqueline & Veraguth (1954) stated that osteophytes in the hip were related to the process of aging; similarly, Hernborg & Nilsson (1972) found that osteophytes in the knee joint tended to grow with age. This paper will try to describe the age and sex specific incidence of osteophytes in a randomly selected population.

MATERIALS AND METHODS

In the archives of the Department of Radiology, General Hospital, Malmö 1179 radiograms of knee joints were studied. The radiograms had all been obtained for reasons other than knee symptoms:

Venographies: In 315 men and 311 women, obtained mainly for the diagnosis of thrombosis.

Arteriographies: In 169 men and 139 women, obtained mainly for the diagnosis of arterial occlusion.

Cancer control: In 345 women, obtained exclusively in the routine search for metastases after operation for carcinoma of the breast as part of the follow-up program in the hospital.

In all the films the presence or absence of definite osteophytes was noted.

RESULTS

At first, the homogeneity of the radiographic material was evaluated. It was found that the incidence of osteophytes in men was higher in individuals in whom the knee radiogram had been taken in conjunction with an arteriography as compared to the venography cases (Table 1). In women no such significant differences could be demonstrated between the three groups, arteriography, venography and cancer. The arteriography cases were excluded from the calculations of incidence in men. In Table 2 the age and sex specific incidences of osteophytes are shown in 10-year age groups for men and women separately. Before the age of 50 osteophytes were rarely found, after 60 there was a considerable increase in women, and after 70 more than one-third had osteophytes. The incidence in old men did not approach that of old women; if the arteriography cases were included the difference between men and women, however, became less pronounced.

Table 1. Comparison between the incidence of osteophytes in arteriographies and venographies in men.

	Arteriography	Venography
30–39	0/4	0/4
40–49	2/27	0/32
50–59	6/66	3/49
60–69	13/37	3/113
70–79	7/30	5/88
≧ 80	4/5	1/29

Table 2. Age and sex specific incidence of osteophytes.

	Total no. of joints	Fraction with osteophytes	
		Men	Women
30–39	9	0.00	0.00
40–49	177	0.00	0.04
50–59	232	0.06	0.04
60–69	304	0.03	0.18
70–79	218	0.06	0.35
≧ 80	70	0.03	0.37

DISCUSSION

The difference between the two groups of men implies that data obtained in this manner cannot be accepted without criticism as a random sample of the population. The difference is not readily explained, but it may be suspected that the presence of osteophytes as well as symptoms from the lower limbs which cause an arteriography to be made, usually arteriosclerosis, are both closely linked to the biological age of the individuals and that this link in women is not sufficiently strong to penetrate in these data. The difference in the incidence of osteophytes between old men and old women is also unexplained. It is, however, known that osteoarthritis of the knee, including obliteration of the joint space and periarticular structural changes, is more common in women than in men (Danielsson & Hernborg 1970).

SUMMARY

In 1,179 radiograms of knee joints obtained for reasons other than knee symptoms, the presence or absence of periarticular osteophytes was recorded. The incidence of osteophytes increased with age and more in women than in men. Because of the selection of films the calculated incidence may not without criticism be accepted as equal to that of a random sample of the population.

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