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The Incidence Of Dupuytren's Disease In Patients With Rheumatoid Arthritis

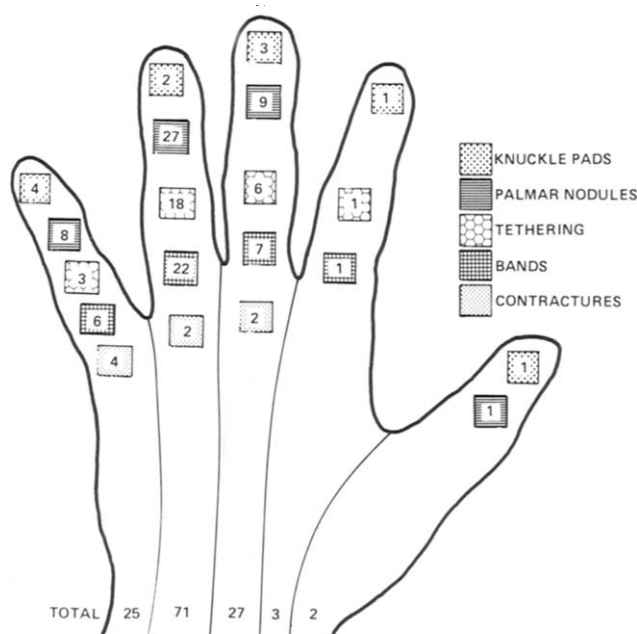
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From the Universities of Manchester and Nottingham

Some conditions commonly associated with Dupuytren's disease are well-known. No attention has been paid to conditions with a significantly low incidence of Dupuytren's. A large number of patients with rheumatoid arthritis were studied, and were found to have a statistically significantly lower incidence of Dupuytren's disease, than was observed by the same clinicians in age, sex, matched controlled patients.

Much has been written regarding the aetiology of Dupuytren's disease, although even now remarkably little is known about it. The role of inheritance (Ling, 1963) and the association with epilepsy (James, 1969) and with diabetes (Heathcote, Cohen and Noble, 1981) are proven. That neither occupation, nor trauma are of importance in the causation has been shown by Early (1962). There have been no reports of conditions in which Dupuytren's disease is significantly less common than usual and it seems just as important to seek information regarding other diseases in which there is a lower incidence of the condition, as it is to define those factors which are related to Dupuytren's, a very common and sometimes disabling condition, about whose aetiology and pathogenesis we remain largely ignorant.

Methods

The hands of 131 male and 261 female randomly selected in-patients in the North of England (see Acknowledgements) suffering from rheumatoid arthritis were studied, particularly in relation to the presence of palmar nodules, skin tethering, pre-tendinous bands and contractures. The three observers had all previously examined many hands for similar studies (Noble, Heathcote and Cohen, 1983) and found at least a 95% correlation in their observations. The



existence of these features and of knuckle pads was noted in relation to the five digits and digital rays of each hand. These data were compared with similarly obtained observations made from the hands of 254 male and 301 female control patients matched for age by decade. The Control patients were cases examined at random in the fracture clinic. Our results were subjected to standard 't' tests.

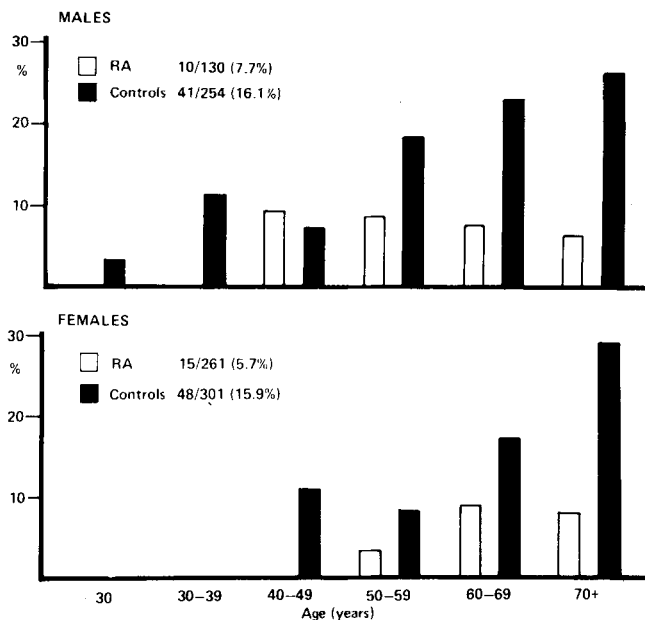
TABLE 1
Incidence of Dupuytren's features in male rheumatoid patients compared with age-related controls

Age group	R. A.		Control		Value
	No. with Dupuytren's	Total No.	No. with Dupuytren's	Total No.	
<30	0	4	1	29	<0.8
30-39	0	5	4	35	<0.5
40-49	2	21	3	41	<0.8
50-59	4	45	11	59	<0.2
60-69	3	40	14	60	<0.05
70+	1	16	8	30	<0.1
Total	10	131	41	254	<0.02

TABLE 2
Incidence of Dupuytren's features in female rheumatoid patients compared with age-related controls

Age group	R. A.		Control		Value
	No. with Dupuytren's	Total No.	No. with Dupuytren's	Total No.	
<30	0	3	0	5	-
30-39	0	15	0	12	-
40-49	0	34	3	27	<0.05
50-59	2	58	7	89	<0.5
60-69	9	101	16	93	<0.1
70+	4	50	22	75	<0.01
Total	15	261	48	301	<0.001

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Results

The incidence of at least one feature of Dupuytren's per male patient is shown in Table 1, with values of statistical significance upon comparing the Dupuytren's patients with the Controls for each decade. Table 2 shows similar data for female patients. Figure 1 outlines the incidence of Dupuytren's features throughout the five rays of the hand in male and female rheumatoid patients. The incidence of Dupuytren's in rheumatoids and controls is compared in Fig. 2. It is shown that overall there is a significantly lower incidence of Dupuytren's features in patients with rheumatoid diseases, than there is in random control patients. An attempt was made, and failed, to correlate this tendency accurately with drug histories, particularly as regards steroids. It was noted, however, that the incidence of Dupuytren's lesions, albeit basically sparse, was similar in those patients with hands significantly deformed by their rheumatoid disease and those with normal or nearly normal hands. The incidence was also similar when male and female and dominant/non-dominant hands were studied.

Discussion

To the best of our knowledge this is the first occasion upon which a disease condition (as opposed to racial or geographical factor) has been shown to be associated with a significantly low incidence of Dupuytren's disease. The factors most likely to account for this are:—

1. Genetic.
2. An intrinsic abnormality of collagen.
3. Occupation and use.
4. Drugs.

It is well known (Ling, 1963, James, 1969) that Dupuytren's has a strong familial tendency and a genetic link is described in rheumatoid arthritis also (Stastny, 1978). It could be that those genetic factors predisposing to the immunological disturbances of rheumatoid disease, give a relative "immunity" to the development of Dupuytren's disease. As Early (1962) has so comprehensively shown that neither trauma nor occupation predispose to the formation of Dupuytren's, it seems very unlikely that the enforced inactivity of rheumatoid disease is a factor causing Dupuytren's disease. Thus the only factors worthy of further attention are intrinsic abnormalities of collagen chemistry and synthesis, and the possible effects of drugs, particularly steroids.

Hueston (1974) has rightly pointed out that one piece of research into the aetiology of Dupuytren's merely sets new questions rather than answers old ones. Thus further epidemiological research is indicated, seeking differences between those rheumatoid patients who are or have received steroid treatment and those who never have. Further studies will look at the hands of patients on long-term steroids for other conditions. Finally biochemical analyses are underway in our laboratory, studying differences between palmar fascia from various clinical conditions with and without Dupuytren's.

Meanwhile a significantly low incidence of Dupuytren's disease in the hands of 392 patients with rheumatoid arthritis has been shown in relation to control groups.

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