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THE SEX RATIO AND RATE OF REOPERATION FOR DUPUYTREN'S CONTRACTURE IN MEN AND WOMEN

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We identified all patients treated by local fasciectomy at the Department of Hand Surgery, Uppsala University Hospital between 1965 and 1996. A total of 2375 operations were performed on 1600 patients. We found a male: female ratio of 5.9:1. Women had a higher mean age at first operation (62.4 years) than men (59.8 years). One-third of the men required repeated surgery and one-quarter of the women. Early age at first operation was associated with recurrent disease.

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Dupuytren's contracture (DC) is common among Caucasians, mainly of North European origin (Ling, 1963). Thus, the disease is considerably more common in the Scandinavian countries and the UK than south of the Alps (Brouet, 1986; Egawa, 1985). There have been reports of familial occurrence (Ling, 1963) and the prevalence and incidence increase with increasing age (James and Tubiana, 1952; Millesi, 1965; Skoog, 1948). Affliction in early childhood is extremely rare (Berger and Gurr, 1985). There is a strong unexplained male predominance with a male:female ratio of 5-9:1, which decreases with increasing age (Berge and Pohl, 1988; Skoog, 1948).

We identified all patients undergoing surgery for DC in one department between 1965 and 1996. This resulted in a group of 1600 individuals, which has been evaluated, with respect to changes over time, age and sex distribution. We also assessed the characteristics of those subjected to multiple and/or bilateral operations with regards to age and sex.

PATIENTS AND METHODS

Hand surgery has been a medical speciality in its own right in Sweden since 1971. Seven regional university hospitals have hand surgical clinics and departments each serving 0.9 to 1.9 million inhabitants. In Uppsala County, inhabited by 280 000 people, the vast majority of patients with DC are treated at the Hand Surgical Department due to its geographical closeness. In the neighbouring counties only the more advanced cases tend to be referred to the clinic in Uppsala. Consequently, our material consists of a mixture of referred patients (20%) and patients from Uppsala County (80%).

Patients

The study group consists of all patients operated on for Dupuytren's contracture in this department, from 1965 to 1996. Since 1947, all inhabitants of Sweden have been assigned a ten-digit national registration number (NRN), which is a unique personal identifier (Lunde et

al., 1980). The NRN contains information about an individual's date of birth, as well as the county of residence in 1947, or the county of birth for those born in 1947 or later. For the period from 1965 to 1986 we identified, by their NRN, all in-patients operated for Dupuytren's contracture at the Hand Surgical Department in Uppsala using a Swedish adaptation of the ICD-7 code (744.20) for the period from 1965 to 1968 and the ICD-8 code (733.90) for the period from 1969 to 1986. However, the outpatient records were not marked with ICD-codes during this period and in order to include this group we checked the manual registers of operations year by year and identified those who had been treated by local fasciectomy in the hand with the operation code 8631. From 1987 to 1996 we could identify all patients operated for Dupuytren's contracture through our hospital data patient administrative system, by using the ICD-9 code (728G) combined with the operation code 8631.

In order to assess those patients who had had multiple operations, an adequate time from the first operation was required. In this analysis the study was therefore confined to the 1343 patients operated on before 1992.

RESULTS

A total of 2375 operations for Dupuytren's contracture were done in 1600 patients from 1965 to 1996. The annual number of operations did not differ substantially during the period, with a mean of 49 operations per year (range, 34-65) (Fig 1). There were more men than women (Table 1). In those operated on only once the male predominance was less (Table 1). Women had a somewhat higher mean age at first operation than men. Fifty-seven percent of patients had their first operation before the age of retirement, i.e. 65 years. This was more common in men (61.7%) than women (51.2%) (Fig 2).

Men had more than one operation more frequently than women. Two-thirds of the men had only one operation compared with three-quarters of the women (Fig 3).

Out of the 1343 subjects that had a primary operation before 1992, 481 (35.8%) had more than one operation. Out of those 481, 186 (38.7%) had another operation within 12 months and 243 (50.5%) within 24 months,

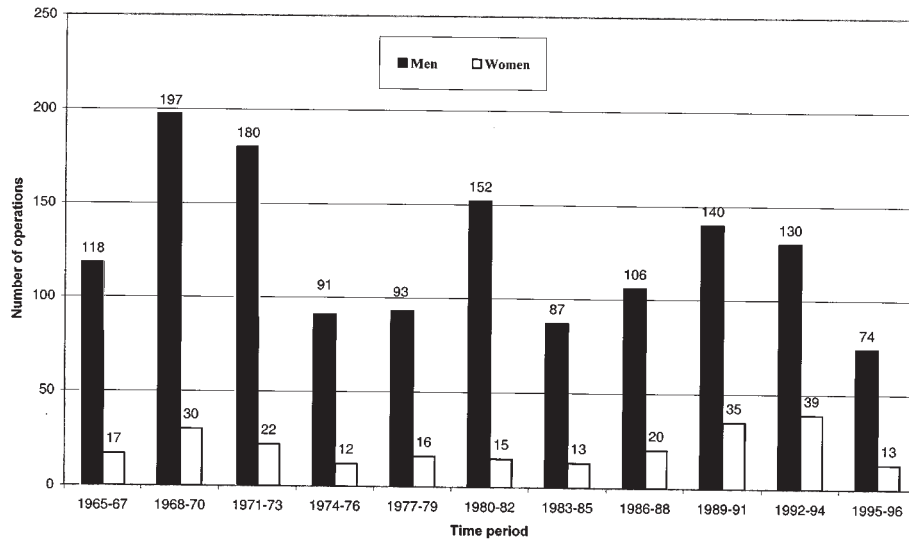


Fig 1 Number of operations for Dupuytren's contracture annually between 1965 and 1996.

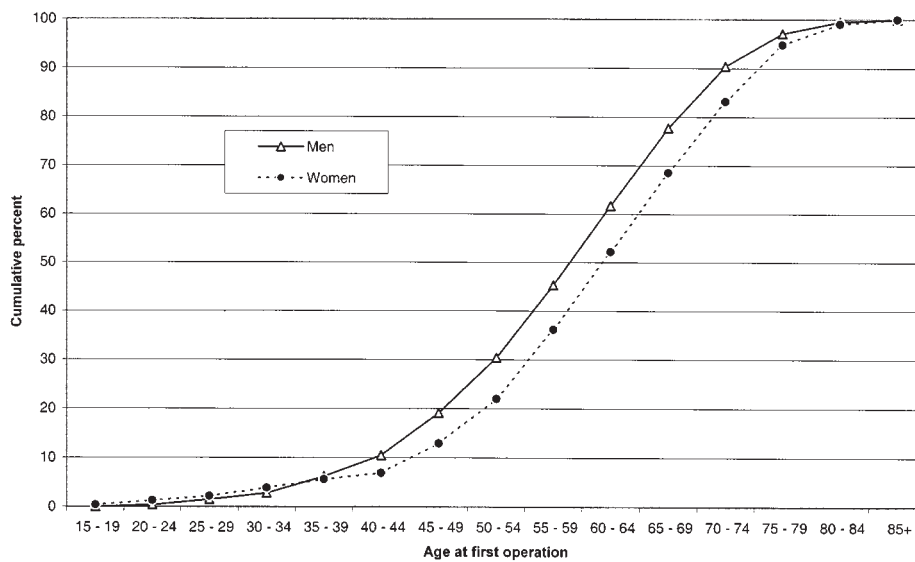


Fig 2 Age-distribution at primary surgery for Dupuytren's contracture.

Table 1 Sex distribution of patients having operation for Dupuytren's contracture

	<i>No. of patients (%)</i>		<i>No. of patients (%) operated once</i>		<i>No. of patients (%) operated twice</i>		<i>No. of patients (%) operated > twice</i>		<i>Mean age at first operation</i>
Male	1368	(85.5)	888	(82.9)	324	(88.5)	156	(97.7)	59.8
Female	232	(14.5)	183	(17.1)	42	(11.5)	7	(4.3)	62.4
Total	1600	(100.0)	1071	(100.0)	366	(100.0)	163	(100.0)	61.1

indicating in most instances a bilateral affliction rather than recurrence of the disease. Twelve percent or 155 patients had more than two operations, indicating a definite recurrence or extension of disease.

Analysing as separate groups those individuals having two, three or more operations, it was obvious that patients operated on for the first time early in life were more prone to have a recurrent disease. Among those

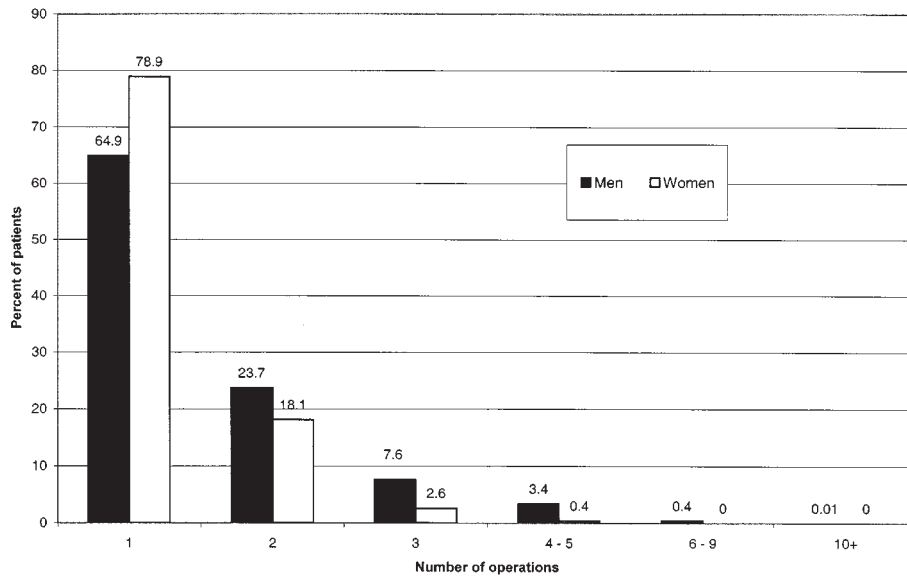


Fig 3 Number of patients (in percent) undergoing one or more operations due to Dupuytren's contracture.

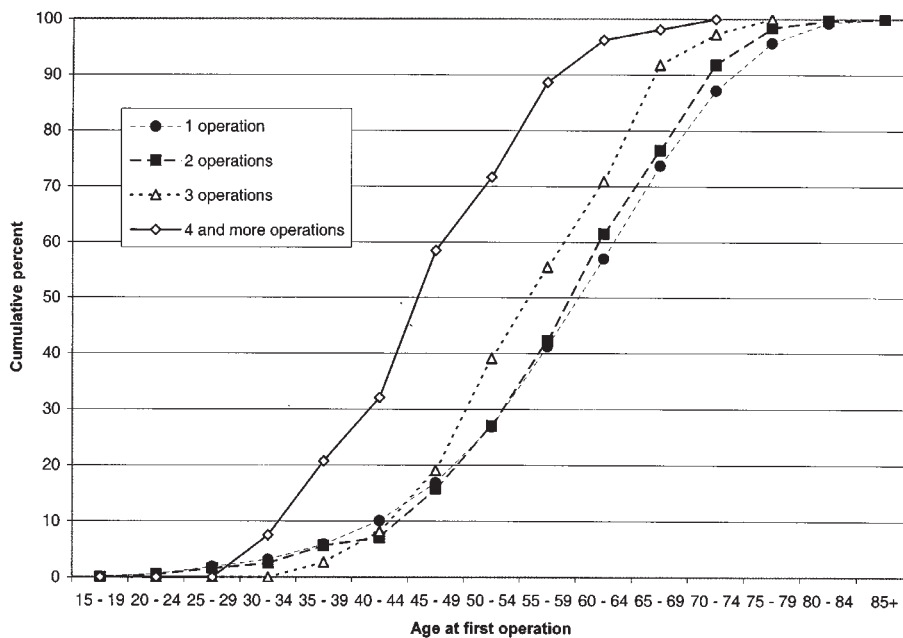


Fig 4 Cumulative percent of patients plotted against age at first operation.

patients operated on once, 25% were under the age of 55 years at first operation, 50% under the age of 60 years and 75% under the age of 68 years. In the group operated on three or more times 25% were under 40 years of age, 50% under 47 years of age and 75% under 54 years of age at the first operation (Fig 4).

DISCUSSION

Although there have been several demographic studies of patients with Dupuytren's contracture they are hampered by small numbers or the fact that they have emanated from secondary referral centres. Due to its size

the present study is less prone to chance findings. Moreover, 80% of the patients, a constant proportion during the study period, were recruited from Uppsala County. We could not identify patients who were referred from outside the county, but it is unlikely that this group would have any substantial impact on the characteristics of those operated on for DC in a population-based setting. The fact that the number of operations did not differ substantially over time during the period gives strength to the hypothesis that the patients studied are representative for this patient group. It is therefore of interest that our male:female ratio (5–9:1) is somewhat lower than in one of the other major studies (Mikkelsen, 1972) but corresponds well to a study by McFarlane et al. (1990) with a male:female ratio of 5.25:1. In agreement with the findings of McFarlane et al. we also found an earlier age at operation in men: 59.8 years for men and 62.4 years for women compared with 57.5 and 62.7 years. Moreover, the frequency of repeated operations was much lower among women than men, also in accordance with the McFarlane survey. This supports the hypothesis that the disease is less aggressive in women than in men.

Of those 221 patients operated on for a second time within 24 months, most probably had bilateral involvement in accordance to earlier studies. Skoog (1948) found bilateral affliction in 54.9% and Mikkelsen (1990) reported bilateral affliction in 58.7% of men and 43.3% of women. It has been reported that recurrence does not usually occur within 12 to 18 months of the first operation (McFarlane et al., 1990).

The results from the present study also indicate that the age distribution among those with unilateral and bilateral involvement did not differ. However, those with a recurrent disease, i.e. three or more operations, tended to have their first operation at an earlier age. It is also obvious that the earlier the age at first operation, the more likely the patient is to have another, indicating a more aggressive disease associated with an early age at onset.

Another interesting finding in this study is the fact that around two-thirds of the men had their first operation before retirement age and 75% of those with a history of more than three operations were first operated on before the age of 54. This suggests that there are differences between those with a tendency to recurrent disease and those who are cured after one surgical intervention.

Known or suspected risk factors for DC, such as family history, smoking habits, alcohol abuse, and concomitant diseases, such as diabetes, might be important prognostic factors. As identification of those patients at risk of recurrent disease might influence the treatment strategy, further epidemiological studies to identify specific characteristics of such patients are indicated.

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