DUPUYTREN'S CONTRACTURE: PLANTAR INVOLVEMENT

By STUART D. GORDON, M.B.

Toronto

THE literature on plantar involvement in Dupuytren's disease, when compared to that of palmar involvement, is indeed sparse. There would appear to be at least two reasons for this : the plantar lesion is relatively uncommon, and it rarely results in the crippling characteristic of the lesion in the hand.

This report is based on an analysis of the records of 101 patients, all of whom had been followed for at least one year. Two of the patients, both men, had lesions in the feet only. Twelve of the patients were females, and of these two had bilateral

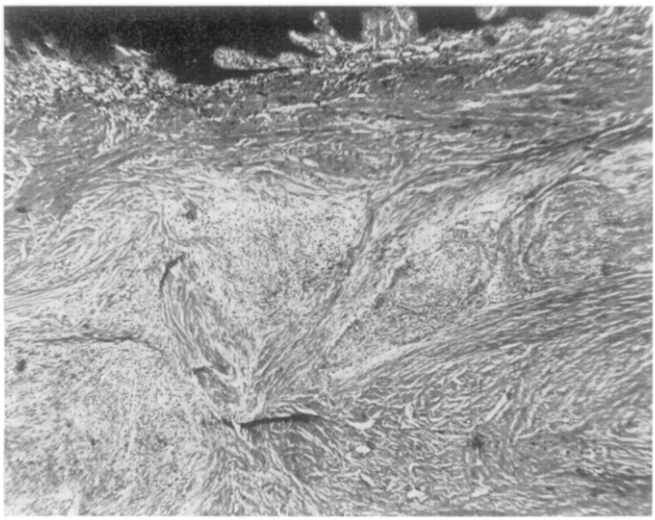

FIG. 1

Involvement of the dermis by the fibroblastic lesions of Dupuytren's disease of the foot is illustrated.

lesions, a third one foot only. Six of the eighty-nine men had disease of the plantar fascia, five having lesions in both feet. Two of the men had Peyronie's disease.

The average age at time of treatment of the men in this group was 38 years, of the women 49. The lesion in the foot had been noticed from a few months to five years before the patient reported for treatment (Fig. 1).

The occurrence of plantar fibromatosis has been known at least since Dupuytren's day (Skoog, 1948 ; Pickren *et al.*, 1951). Yet, probably because no author has been able to report a sufficiently large series, we do not know the relative incidence. Four of the men with plantar involvement had Dupuytren's contracture of the hands, two in one hand only ; one woman, the youngest (aged 32) had the disease on one foot, the other two women had bilateral involvement of hands and feet. This group includes a brother and sister, with involvement of all four extremities, whose family history has been published (Gordon, 1959).

Two of the patients did not have symptoms ; three complained of pain, one of cramps, and seven of tenderness. None complained of discomfort related to the size of the lesion, a complaint noted in other series (Pickren *et al.*, 1951 ; Hueston, 1963). In many reported instances the presence of the lesion had gone unnoticed, till found on examination.

In six of the nine patients in this series the lesion was in the middle of the longitudinal arch ; in two it was just behind the head of the first metatarsal, and one of these was a double lesion ; while in one patient the disease developed in the

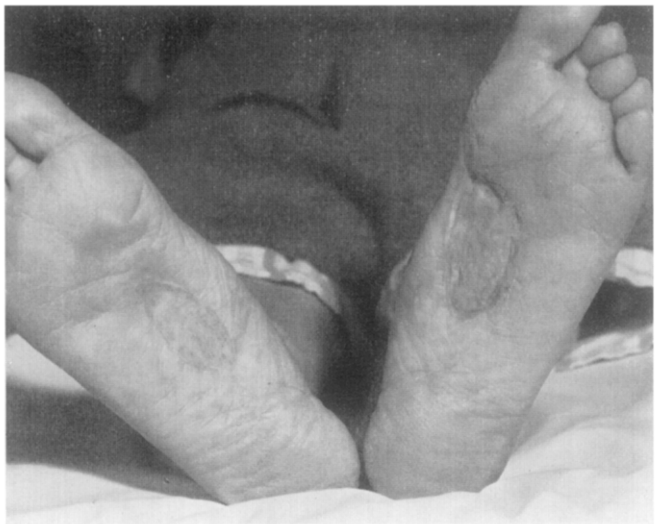

FIG. 2

Split-skin grafts on soles of feet of man, now aged 68, who had bilateral limited fasciectomy in 1948. Recurrence developed in each foot. The right foot had a complete fasciectomy plus graft done in 1951, and second incomplete fasciectomy and graft done in 1953 on the left foot. Recurrence is present in the left foot.

central part of the foot. The commonest site, in this as in other series, is the midpoint of the longitudinal arch (Skoog, 1948 ; Hueston, 1963).

Contracture of the toes seems to occur rarely in Dupuytren's disease of the foot. Skoog and others have pointed out that from an anatomical standpoint, there is no explanation for this infrequent occurrence of extension to involve the fascial prolongation to the toes. Only one patient in this group had involvement of the interdigital fascia, and he had lost some degree of dorsiflexion of the second, third and fourth toes of the right foot and of the second toe of the left foot.

Skin involvement was seen prior to operation in two men and one woman. The latter, aged 66, presented with two points of adherence, both exquisitely tender. Pickren *et al.* noted skin adherence in two personal cases, and quoted a report of two others.

A local excision of the involved fascia was done in eight patients ; one man with bilateral involvement not being operated upon, and in the remaining five men only one foot in four, both feet in one. This was followed by recurrence in the feet

of the three women, and in three of the feet of two men, *i.e.*, in eight of eleven operations (Fig. 2). If a subsequent operation, the third in two patients, and the fourth in one, consisted in complete excision of the plantar fascia the disease was arrested ; if incomplete, recurrence was the rule.

Recurrence was apparent in from five months to three years. In five patients some of the sole skin was sacrificed and the defect closed with a splint skin graft ; in three at the first operation. These patients in whom a complete excision of the plantar fascia was done did not appear to have functional impairment of the treated foot.

All primary excisions were done through a curved incision on the inner side of the foot, the convexity being medial, avoiding in so far as possible the weight-bearing surface, exactly as reported by Pickren *et al.* In only one patient was there trouble with the flap of sole skin as reported by Curtin, and in this 55-year-old man there were blisters on the dorsum as well. It was believed that the dressing had been applied too tightly.

In summary it may be stated that involvement of the plantar fascia by Dupuytren's disease is relatively rare ; that the actual incidence ratio is unknown ; that there may be no symptoms, or the patient may complain of tenderness and/or cramps, pain or discomfort related to the size of the lesion ; and that toe contracture and skin adherence are rare but may occur. Operation should be done only when, because of size or symptoms, the lesion interferes with one or more of the patient's activities, and if done should consist of a complete fasciectomy rather than a local excision (Pickren *et al.*, 1951 ; Pedersen, 1954 ; Banhawy, 1960 ; Curtin, 1962). Such excision should prevent recurrence and leave the patient with a fully functional foot.

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