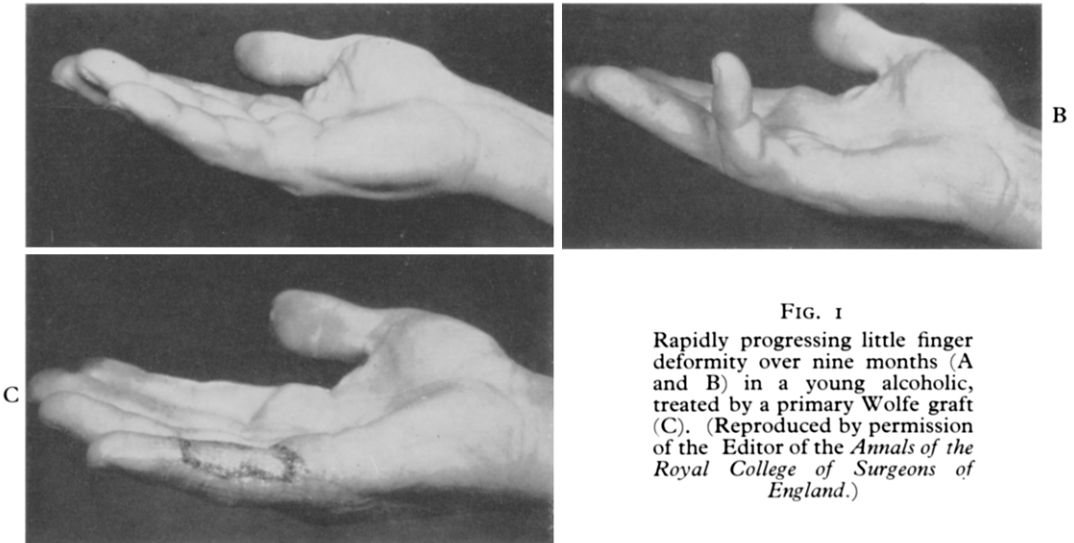


# THE CONTROL OF RECURRENT DUPUYTREN'S CONTRACTURE BY SKIN REPLACEMENT

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By definition a recurrence is the reappearance of the same condition in an area from which it has been removed. In assessing the results of surgery for Dupuytren's contracture the need is obvious to distinguish between *recurrence* within the cleared operative field and *extension* of the pathological change in the unoperated parts of the hand. The reappearance of a flexion deformity does not necessarily mean "recurrence" in the



strict pathological sense. Conversely the reappearance of Dupuytren's tissue in the operated area may not lead to a return of flexion deformity and may escape being recorded as "recurrence".

The puzzle of the pathology of Dupuytren's contracture is most likely to be solved by the study of recurrence. The operative field is readily available for regular review, and the appearance of recurrence or extension of Dupuytren's tissue offers a rare opportunity for the clinical observation of the progression of this pathological process about which so much remains to be documented. When the macroscopic abnormal deforming mechanism of band and nodule, along with the related area of palmar aponeurosis, has been excised to correct a digital deformity in Dupuytren's contracture, the local reappearance of the same type of tissue presents us with a chance to study the factors which may be still acting in these individuals and which may be responsible for the continued production of Dupuytren's disease.

Slowly, more facts relating to the occurrence of recurrent Dupuytren's contracture are emerging. Thus it is seen most often in younger age groups, in the presence of knuckle pads and other evidence of a strong Dupuytren's diathesis, and, although

Millesi (1967) has found recurrence appearing after 10 years, it is usually seen within two or three years of fasciectomy (Hueston, 1963). It may be relevant that the appear-

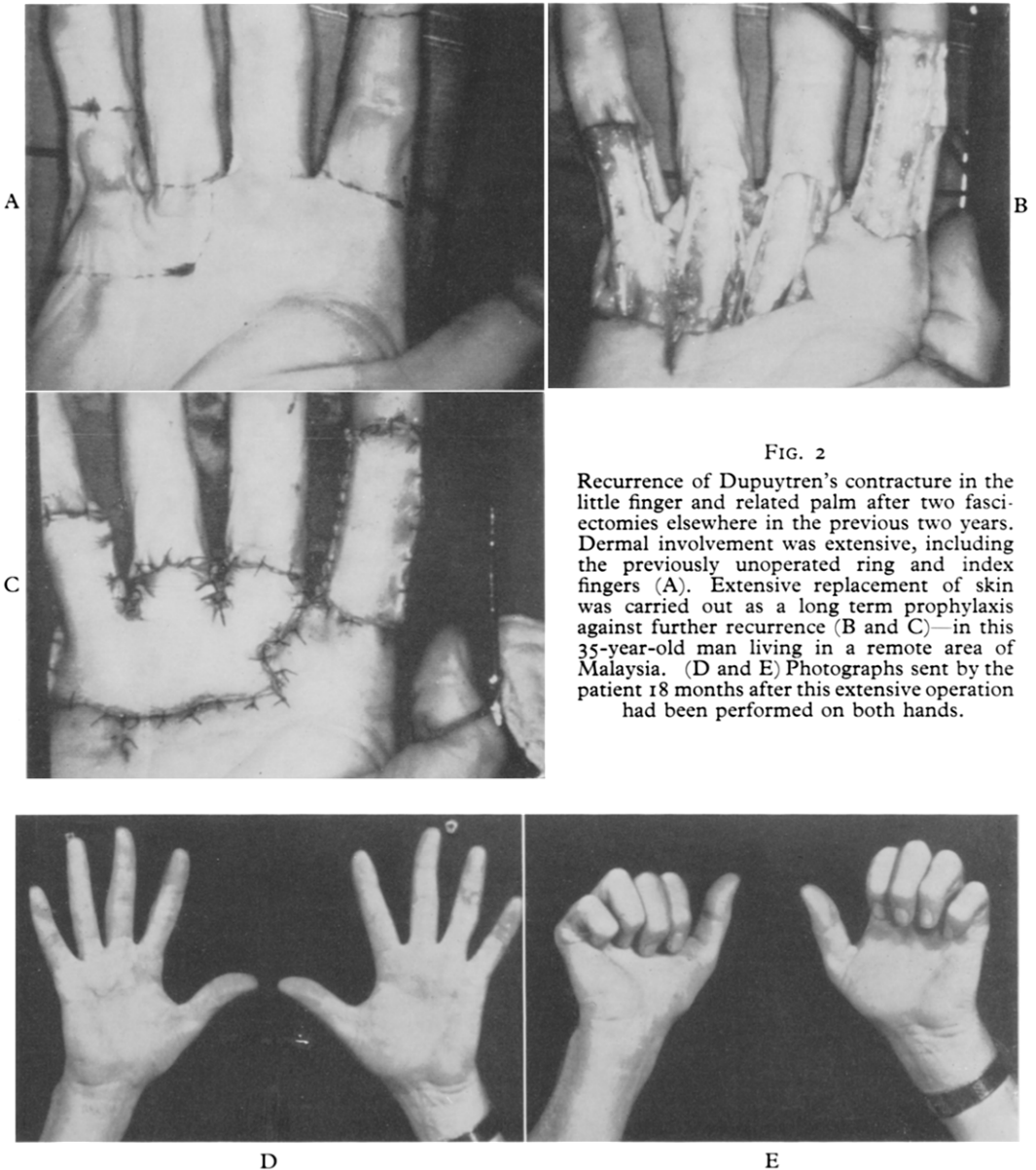


FIG. 2

Recurrence of Dupuytren's contracture in the little finger and related palm after two fasciectomies elsewhere in the previous two years. Dermal involvement was extensive, including the previously unoperated ring and index fingers (A). Extensive replacement of skin was carried out as a long term prophylaxis against further recurrence (B and C)—in this 35-year-old man living in a remote area of Malaysia. (D and E) Photographs sent by the patient 18 months after this extensive operation had been performed on both hands.

ance of Dupuytren's contracture following an isolated injury to the hand shows a similar relationship to age, diathesis and time of appearance (Hueston, 1968).

The observation that recurrence did not occur beneath a free skin graft has been reported by Piulachs and Mir Y Mir (1952), Hueston (1962) and Gordon (1964b).

The use of free grafts in Dupuytren's contracture is not new and was early advocated

by Berger (1892) and Lexer (1931) on the analogy of correcting burn scar contractures in the palm.

Prompted by this observation, that the fibroplastic process of Dupuytren's contracture appears to be controlled or eliminated by replacement of skin in the area, primary *prophylactic* excision of the skin as well as the fascia has been used in selected cases where the prognosis, judged by the weight of predisposing factors, was regarded as most likely to lead to local recurrence (Hueston, 1967).

Excluding supplementary free grafts for skin shortage, deliberate excision of skin has been performed for the control of the Dupuytren's contracture process in 38 patients

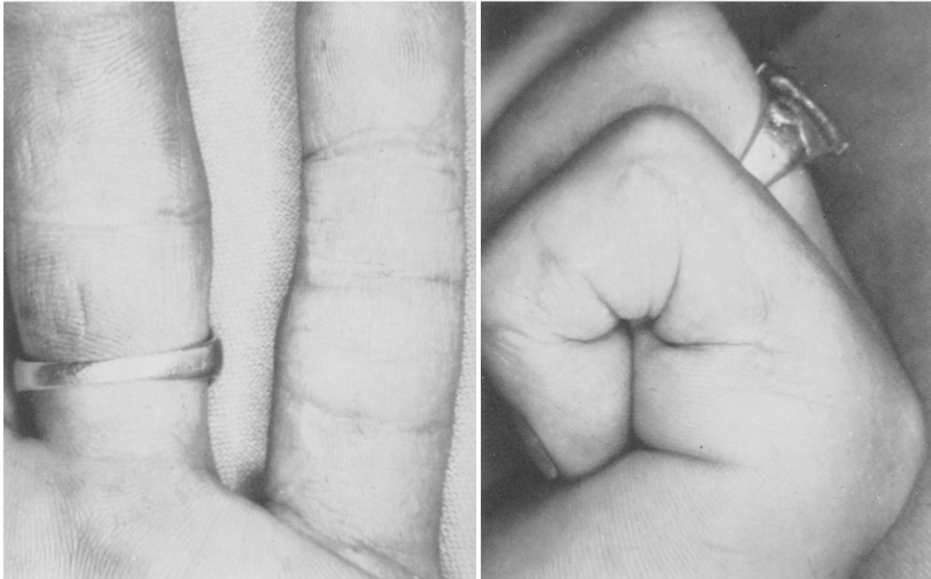


FIG. 3

Four years after primary Wolfe graft replacement of the entire volar aspect of proximal two digital segments in this 28-year-old labourer there has been no recurrence.

in the past 10 years. A total of 65 full thickness (Wolfe) grafts have been used; split thickness grafts have not been used. When the skin was excised along with a recurrence of Dupuytren's contracture the term "secondary" graft has been used and 32 secondary grafts have been followed for periods of 1 to 10 years. When the skin was excised along with the virgin lesion, after a prognostic estimation that recurrence was very likely, this has been termed a "primary" graft and 33 primary grafts have been followed for one to five years. The analogy with cleft lip and palate terminology seemed rational.

Despite the short period of follow-up in some patients, the total freedom from recurrence beneath all these Wolfe grafts is regarded as significant. It has previously been found that recurrence is usually evident within two years in these young patients with a strong diathesis (Hueston, 1963) and, although this may not apply in all series (Millesi, 1967), it is regarded as significant that in many of the hands in the present series, extension has occurred elsewhere and even at the margin of the grafts, but not beneath the graft.

It is stressed that skin replacement is reserved for those young patients with an active diathesis to the production of Dupuytren's contracture—as evidenced by a

recurrence already after fasciectomy, or by a short history with rapid progression of deformity and skin fixation, particularly in the little finger (Fig. 1) but even elsewhere (Fig. 2).

The functional state of the finger post-operatively should be the same as after a similarly planned skin replacement for burn scar contracture (Fig. 3). The usual

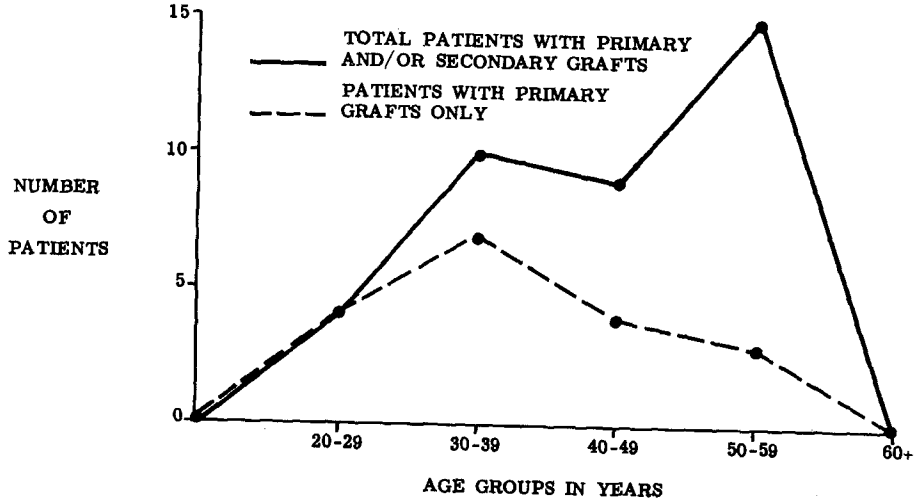


FIG. 4

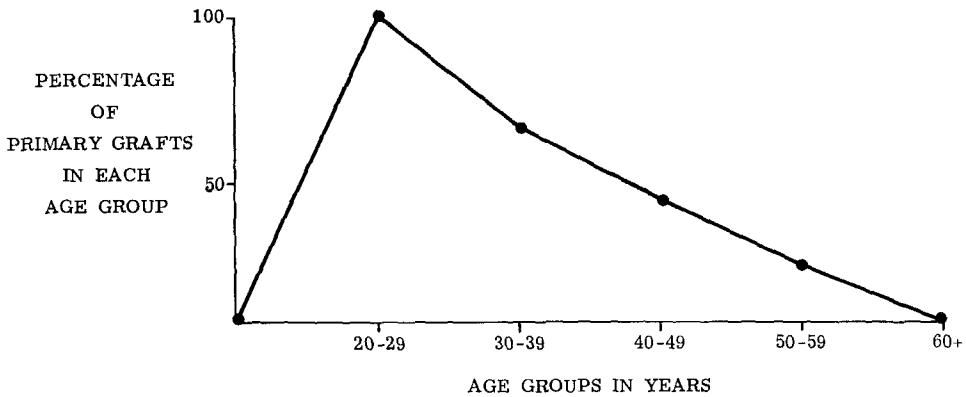


FIG. 5

Age distribution of patients in whom skin replacement has been used to prevent recurrence of Dupuytren's contracture.

precautions are taken at operation to preserve the digital theca intact and to place the graft margins in the mid lateral digital line with darts at the joint lines. The dissection of the neurovascular bundles and of the digital theca is safer and simpler at the primary operation than after recurrence has already occurred and the correction of proximal interphalangeal joint deformity is more often complete.

While 24 patients have had only one digit resurfaced by Wolfe graft, nine have had bilateral grafts and four have had from four to six digits resurfaced (Figs. 4, 5 and 6). The age distribution (Fig. 5) of the patients on whom this "radical local excision"

with primary grafting has been used is seen to correspond closely to that of recurrent Dupuytren's contracture (Fig. 6) (Hueston, 1963). No skin replacement has been required in any patient over the age of 59 years.

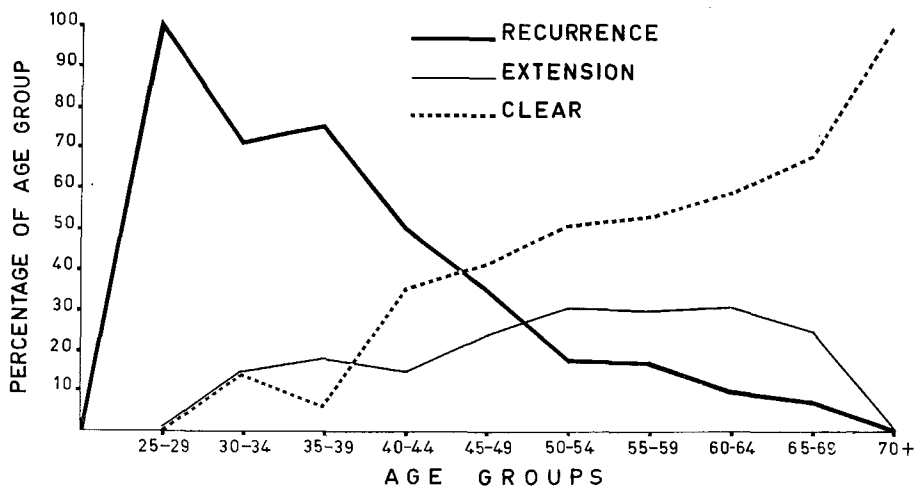


FIG. 6

The predilection of the younger patients to recurrence, and of older patients to remain clear is shown. (Reproduced by permission of the Editor, *Plastic and Reconstructive Surgery*.)

### CONCLUSION

There is probably aetiological significance in the observation that the behaviour of the volar palmar and digital tissues in patients with Dupuytren's contracture is altered when the overlying skin has been changed. This emphasises our still great ignorance of the physiology, and hence of the pathology, of the connective tissue compartment enclosed between the palmar aponeurosis of the skin of the palm.

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