VARUS FIFTH TOE

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This is a retrospective study of 18 children and young adults who during the past 12 years have undergone the Hulman soft-tissue procedure for overlapping of the fourth toe by the fifth. Bilateral operations were performed in four patients. This is a simple and effective procedure which produced good results in 21 out of 22 operations.

Overlapping of the fourth toe by the fifth (varus fifth toe) is a common congenital deformity which is frequently bilateral (Fig. 1). The fifth metatarsophalangeal joint is subluxated and the toe canted dorsally and medially. The patients usually seek treatment because of discomfort or for cosmetic reasons. Passive stretching or strapping are ineffective in correcting this deformity, and correction by operation is generally advised. Many operations have been described, but most have certain limitations.

In 1964 Hulman described a simple operation involving correction of the soft tissue. Since this time one author (TSM) has adopted the Hulman procedure in the treatment of varus fifth toe. The results have generally been satisfactory, yet the procedure does not seem to be in general use. We are impressed by the Hulman operation and regard it as the operation of choice for varus fifth toe. This paper emphasises the technique, and recommends its general use.

THE OPERATION

Passive separation of the fourth and fifth toes makes an abnormal skin crease obvious (Fig. 2). An ellipse of skin is marked out with Bonney’s blue (Fig. 3), the long axis of which runs from the dorsal aspect of the fourth toe to the plantar aspect of the fifth and includes the skin containing the abnormal crease. The ellipse of skin and soft tissue is then excised, carefully ensuring that the incision does not encroach upon the neurovascular bundle. Using a tenotomy knife the extensor tendon and dorsal capsule of the fifth toe metatarsophalangeal joint are then divided. Application of traction to the fifth toe facilitates this part of the procedure. The defect in the web space is then sutured along its axis (Fig. 4), realigning the fifth toe so that it lies parallel with the remaining digits of the foot. Sutures may be inserted a little obliquely in order to pull the tissues into line. At this stage it is sometimes found that a little more skin needs to be removed to ensure accurate alignment. When this procedure is carried out it is found not only that the toe lies parallel with its neighbouring digits, but that most of the rotational deformity inherent in the condition has been corrected (Fig. 5). Simple dressings are used, with a swab between the toes which is changed after two or three days to prevent moistening and softening of the tissues. The dressing and sutures are removed after 10 days, when a normal shoe may be worn.

Fig. 1
Photograph to show the overlapping fifth toe.

Fig. 2—The abnormal skin crease which passes dorsomedially to inferolaterally in the fourth interdigital cleft. Figure 3—The dotted line in the interdigital cleft shows the ellipse of skin to be excised. Figure 4—The skin defect is sutured to correct the deformity.

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RESULTS

Eighteen patients who had been operated upon in the last 12 years were traced. Four patients had bilateral operations giving a total of 22 operations. The age at operation ranged from 4 to 32 years; 13 were female and five male. The follow-up varied between 2 and 12 years (mean 4.6 years). All the patients were reviewed. The results were assessed in terms of appearance, comfort and ability to wear normal footwear. There were no cases of recurrence, and all patients stated that they were satisfied with the results of the procedure. Seventeen patients now wear normal footwear. One patient prefers to wear a soft shoe because of discomfort in the cleft. All patients had a good cosmetic result.

DISCUSSION

Operative procedures described to treat this condition include correction of soft tissues, (Lantzounis 1940; Lapidus 1942; Stamm 1948; Wilson 1953; Cockin 1968; Karchinov 1978), correction of soft tissues combined with bony resection (McFarland 1950; Ruiz-Mora 1954; Scrase 1954) and amputation (Jones and Lovett 1929). Many of the corrections of soft tissues are technically difficult. Wilson's procedure may lead to formation of an ugly scar (Scrase 1954) and with Butler's correction of soft tissues care must be taken that full correction is obtained without producing excessive tension on the neurovascular bundle (Cockin 1968).

McFarland's procedure of syndactyly of the fourth and fifth toes plus excision of the base of the proximal phalanx (McFarland 1950) and the Ruiz-Mora operation of proximal phalanectomy with plantar syndactyly (Ruiz-Mora 1954), although producing good results, replace one deformity by another. Correction of soft tissue combined with bony excision is a more extensive procedure than the operation here described. Tenderness over the metatarsal head (Stamm 1948) may follow amputation of the fifth toe and this procedure is unwarranted in young people. When choosing a procedure to treat this condition we feel that two points must be considered: first that any sizeable scar on the dorsum of the foot will tend to contract and cause recurrence; and secondly that there is an abnormal skin crease present in the fourth interdigital cleft which must be excised.

The operation described by Hulman (1964) is simple, safe and gave good longterm results in 17 of the 18 patients. All patients were satisfied with the results of the procedure and there was no recurrence of the deformity. Moreover, there is no bony resection and the scar is well hidden in the fourth interdigital cleft.

REFERENCES