

SUMMARY AND CONCLUSION

There are three well known factors concerning the natural history of the idiopathic clubfoot. The lesions are complex and rapidly progressive with age. The initial malposition is quickly replaced during growth by deformities and retraction, which in turn become rapidly fixed. The risk of recurrence is certainly greater with a small fibrous-stiff foot.

Although of good initial treatment, surgical failure and evidence of recurrent deformity is estimated. It's incidence is high, recorded as 20% and even 50%. The recurrence is due to the following iatrogenic causes i.e., delay in reporting for first medical care, rough method of stretching, manipulating, plasting, discontinuing conservative treatment, previous failed surgical procedures causing significant scarring about the foot, loss of motion, or residual deformities and the patho-anatomical changes involved.

Treatment of residual clubfeet is one of the most difficult problems in paediatric orthopaedics. The deformity may take many forms and combination, and there are no clear-cut guidelines for treatment. Each patient must be carefully evaluated to determine what treatment will best correct his particular functional impairment.

Deformity of the talo-calcaneo-navicular joint complex, internal rotation deformity of the calcaneus, and scarring and tethering soft tissue structures on the posterior, medial and lateral side of the foot form the basis for therapeutic program.

Clinical evaluation, including careful assessment of forefoot and hind-foot deformity, range of motion, severity of symptoms associated with deformity, function and activity and quality of walking must be considered in treatment decision making.

Radiological examination, as part of evaluation of clubfeet, is indispensable both for planning the treatment and assessment of the result. It assess anatomic measurements and brings to light a surprising amount of hidden deformity. But unsatisfactory radiographic results alone are not the reason for seeking treatment as clinical result.

For best result, the deformities must be corrected as a total block with as much attention paid to the adduction and cavus as to the hind foot varus, equinus and rotation deformity of the calcaneus. The worst approach in surgical treatment is a partial correction which might invite further surgery. Each additional surgical procedure adds scarring, might impair growth, and reduce flexibility.

The basic surgical approach of relapsed clubfeet includes both soft tissue release and bony osteotomy. The appropriate procedures and combination of procedures should be selected on the basis of the patient need, and the amount of residual deformity and pathological anatomy that requires correction. So, surgical treatment should be performed by knowledgeable and experienced surgeon.

Fifty three relapsed clubfeet treated by complete soft tissue release followed by serial corrective cast, above knee night splint, and medical boot. The average age at time of surgery 33.4 months; and duration of post-operative

follow up care varied from 19 to 49 months. In less severe cases, correction is achieved with complete posteromedial and plantar release. If the calcaneum is not only in varus position, but also rotated horizontally, as in severe cases, the posteromedial and posterolateral release is done through extensive circumferential release. Carroll's procedure or McKay procedure.

Tibialis anterior transfer is performed to correct the muscle imbalance, caused by a strong tibialis anterior and weak peronei, for correction the supination of fore part of the foot during the swing phase of gait.

The bony procedure is performed for structural bony element of the deformity including calcaneo-cuboid arthrodesis (Evan's operation), closed wedge osteotomy of the distal end of the calcaneus (Lichtblaus's operation), or a lateral closed wedge osteotomy of the calcaneus (Dwyer's operation).

Using complete clinical evaluation, and a separate radiographic measurement, according to Simons rating system (1985), satisfactory results were obtained in 75.5% and unsatisfactory result in 24.5%. Many factors are considered in interpreting these results, including the age of patient, previous non-operative or operative treatment, the severity of the deformity, and postoperative care. The high percentage of unsatisfactory result, following a complete release, is noted in older children, especially in stiff-fibrous feet, and a relatively short post-operative care period.

Operatively, the general tendency is to operate before the child is aged 12 months (prewalking age — average 6 to 12 months). By this time, the child is large enough, so that anaesthetic techniques are simplified, and the structures in the foot are of sufficient size that complete correction is enhanced.

Repositioning of the talo-calcaneo-navicular joints complex and complete releasing all of the thickening and contractures of the soft tissue are essential for successful operation.

The reconstruction of the feet should be done through two incisions, medial and posterolateral (Carrol's procedure), through which the posterolateral and posteromedial releases are performed.

The problem of skin healing and post-operative scarring could be prevented by the following:

- deep dissection of the skin flaps at the level of the deep fascia.
- adequate surgical exposure is necessary to perform a meticulous and sharp dissection, under direct vision to avoid traumatizing articular surfaces of the tarsal anlagen and rigidity of the foot.
- the tourniquet should be released, hemostasis, secured, and the skin should be closed without tension.

Maintenance of the surgical correction is achieved by serial plaster casts, above knee night splint, medical boot and a strict protocol of physical therapy, as long as 18 months until recovery of the evertors.