A MODIFIED LAMBRINUDI OPERATION FOR DROP FOOT *

PAUL BÉNYI, BUDAPEST, HUNGARY

From the Hospital for Crippled Children, Budapest

The Lambrinudi arthrodesis for drop foot is a popular operation not only because it yields good results but also because fusion occurs more easily than in other methods.

The Lambrinudi operation is usually indicated in the correction of talipes equinus or equinovarus. The chief features of the operation are: excision of a wedge of bone from the talus and calcaneum, including the subtalar joint; excision of the calcaneo-cuboid joint and the lower part of the navicular bone; and the insertion of the remainder of the talus between the navicular and the cuboid bones (Fig. 1).

Performed in this manner, the operation gives excellent results in patients with moderately severe club foot, whether congenital or paralytic. However, in the very severe deformities the correction that can be obtained is not sufficient. The main obstacle to increasing the correction is that both the angle and length of the wedge of bone that can be taken from the talus and calcaneum are limited and cannot be extended sufficiently.

Any modification of the operation designed to give sufficient correction to the severest club foot must increase the size of the wedge of bone taken from the talus and calcaneum, but must not depart from the principles of the Lambrinudi arthrodesis which gives such favourable conditions for sound fusion. In order to achieve this, the operation has been modified. The wedge of bone from the talus and calcaneum is removed, as is the whole of the navicular bone and the top part of the cuboid bone, thus extending the angle and length of the wedge (Fig. 2). The calcaneo-cuboid joint is resected widely. The lower halves of the cuneiform bones are excised as a whole so as to fit the remaining back of the talus.

![Fig. 1](image1.jpg)

![Fig. 2](image2.jpg)

The shaded areas indicate the amount of bone removed in the Lambrinudi operation (Fig. 1) and the modified Lambrinudi operation (Fig. 2).

This procedure allows the severest club foot to be corrected to the required amount to give a plantigrade foot; if there is shortening of the limb as a whole some equinus may be left to compensate for this.

**TECHNIQUE OF OPERATION**

The operation is performed through a curved lateral (or Kocher) approach, and the peroneal tendons are cut. The talo-navicular, subtalar and calcaneo-cuboid joints are opened, and the navicular bone is excised (Fig. 3).

* Based on a paper read at the Annual Meeting of the Hungarian Orthopaedic Association, Budapest, September 1956.
The calcaneo-cuboid joint is excised next, and then a wedge of bone is removed which includes the lower surface of the talus, the upper surface of the calcaneum and the upper part of the cuboid bone. The lower parts of the cuneiform bones are removed with a gouge (Fig. 4) to fit over the beak of the talus. The raw bone surfaces are apposed (Fig. 5), the peroneal tendons are sutured and the wound is closed.

The foot is immobilised for four months in a plaster, in which the patient is allowed to walk after three weeks.

COMPLICATIONS

The patients with congenital talipes were particularly liable to skin and soft-tissue necrosis after the operation, in two of whom it was so severe that the final result was poor. It was thought that tightness of the skin and contracture of the subcutaneous tissues was the cause of this, and to prevent a recurrence of this complication plantar fasciotomy or a Steindler operation was performed when the deformity of the foot warranted it. After these procedures the foot was immobilised in plaster for five weeks with as much correction as possible. No further vascular complications have been seen after the combination of this preliminary soft-tissue operation with the modified Lambrinudi arthrodesis.

RESULTS

From 1952 to 1959 forty-four modified Lambrinudi arthrodeses have been performed, eighteen for congenital and twenty-six for paralytic talipes equinus or equinovarus.

The results have been excellent in forty-two of the forty-four patients, for whom no other method could have given such good correction (Figs. 6 to 9). This procedure is now used routinely.
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FIG. 8
The right foot of a nine-years-old boy with talipes equinovarus is shown before operation in Figure 8, and after a modified Lambrinudi arthrodesis in Figure 9. Good correction and a satisfactory position have been obtained. The patient is able to walk long distances in ordinary shoes without any difficulty.

FIG. 9

DISCUSSION

It is not necessary to lengthen the calcaneal tendon, even when the equinus deformity is very great. This is an important consideration in the paralytic patient because whatever power there is in the calf muscles is left unimpaired with consequent better function of the ankle.

A further advantage of this modified procedure is that both the adduction and cavus components of the deformity are easily corrected, because the anterior tarsal joints are included in the operation.

SUMMARY

A modified Lambrinudi arthrodesis is described which has given excellent results in forty-two out of the forty-four operations for the severest types of club foot.

REFERENCES


VOL. 42 B, NO. 2, MAY 1960