

presence of a reaction of degeneration, at any rate in the early stages. The importance of this is clear. While willing to advise decompression in the early stage of a Bell's palsy, one has been more reluctant when this reaction has developed, on the grounds that there was no prospect of immediate recovery. We may now be entitled to take a more optimistic view, if confirmation is obtainable.

Summary

1. Permanent deformity after Bell's palsy is far commoner than is generally realized.

2. In a young, sensitive woman its effects may be so serious as to justify operation.

3. Up till now it has been impossible to advise operation owing to our ignorance as to the prognosis in any given case.

4. A criterion is proposed for such cases, and indications for further research into the problem are outlined.

My grateful thanks are due to the various colleagues who allowed me access to their files, and also to Miss Margaret Frank, without whose enthusiastic co-operation this laborious questionnaire could not have been compiled.

REFERENCES

- ¹ Duel, A. B.: *British Medical Journal*, 1934, ii, 1027.
- ² Tempea, V.: *Ann. d'Oto-laryngol.*, 1934, No. 2, p. 134.
- ³ Sanders, P. G. H.: *Journ. of Laryngol.*, 1934, xlix, 503.

"DEROTATION" OF THE TIBIA

BY

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The operation which is sometimes called "derotation of the tibia" is principally indicated in two types of case:

1. Cases of congenital club-foot in which the associated medical rotation of the distal tibial diaphysis has not been sufficiently corrected during the manipulations carried out on the deformed foot.

2. Cases of fracture of the bones of the leg where union has taken place with too much external or internal rotation of the distal part of the leg.

The usual operative procedure adopted is either osteoclasis or by open osteotomy. After the tibia has been broken or sectioned, the leg is put up in the correct position and is enclosed in a plaster case until union has taken place. This method is almost invariably successful in children, but when applied to malunited fractures in adults is followed sometimes by delayed union or non-union—probably because the vascularity of the bone is not normal. In order to minimize the likelihood of this unfortunate result, the following operation was devised some years ago, and proved so successful that I have used it since as a routine measure for "derotating" all tibiae. It is possible that this operation, or one similar, has been described before, because the principles are so obvious, but if it has I have not seen any reference to it. Briefly, the operation consists in making an oblique subperiosteal fracture of the tibia and setting it in the desired line.

The Operation

A longitudinal incision is made over the medial surface of the tibia, and the skin and subcutaneous tissues are dissected up and retracted so as to expose the periosteum covering the bone. A flap of periosteum (Fig. 1) is outlined, and is elevated from the medial and lateral surfaces of the tibia, some bone slivers being left attached. A series of drill holes is now made through both cortices

of the tibia, passing from the front to the back. The gauge of the wire twist drill used depends on the size of the tibia to be perforated. With a small child size 33 is large enough, but with an adult size 16 is more satisfactory. Usually about eight to ten holes are sufficient. The points of entrance make a straight line downwards and inwards or downwards and outwards, according to whether it is desired to rotate the foot outwards or inwards (Figs. 2 and 3). It is not necessary to strip the periosteum from the posterior surface of the tibia or put in any shield to protect the tissue behind, as tactile sensation gives ample warning as to when the point of the drill is about to complete the penetration of the posterior cortex.

When the holes have all been drilled their points of entrance through the anterior cortex are joined by cuts with a thin-bladed osteotome, and the cortex of the lateral surface of the tibia is sectioned at the upper or lower end of the line, according to whether lateral or medial rotation is required. The foot and lower part of the leg are then rotated vigorously, laterally or medially as the case may be. This leads to a gaping of the drill-osteotome cut in the anterior cortex (Figs. 4 and 5), and twisting, or bending without separation, of the posterior cortex, which is sufficiently weakened by the drill perforations to enable this bending to take place.

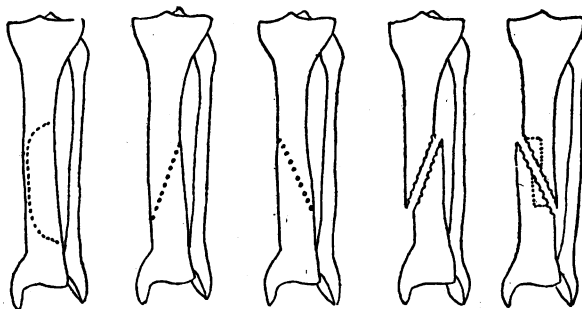


FIG. 1. FIG. 2. FIG. 3. FIG. 4. FIG. 5.

To ensure that the parts do not return to their former position, two small wedges are cut with a chisel or osteotome from the neighbouring bone, as indicated by the dotted lines in Fig. 5, and are jammed into the gap in front. The periosteal flap is then sutured back into position. This may necessitate the making of longitudinal relief incisions in the periosteum covering the crest of the tibia. It is highly desirable that the gap should be covered by the periosteum, for then a closed haematoma is produced, and bone formation quickly follows. In a very few cases transverse osteotomy of the fibula, at the junction of the middle and lower thirds, is indicated. The skin is sutured with catgut, and a plaster cast is applied over sterilized stockinette. In the adult, union is generally firm by the end of six or eight weeks, and in a child in four to six weeks. No special treatment is required after the plaster cast is removed.

The ninth Congress of the French Paediatric Association will be held at Bordeaux, from May 28th to 30th, under the presidency of Dr. C. Rocaz, when the following subjects will be discussed: epidemiology and pathogenesis of infantile acrodynia, introduced by Dr. Péhu of Lyons; insulin treatment in the child, introduced by Drs. Aubertin of Bordeaux and Lelong of Paris; dystrophic disorders of the thorax, introduced by Drs. Lévêque, Ombrédanne, and Garnier of Paris. French or foreign members of a paediatric society may take part in the congress on payment of a subscription of 100 francs. Further information can be obtained from Dr. Boisserie-Lacroix, 27 bis, Cours Xavier Arnoz, Bordeaux.