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GASTROCNEMIUS RECESSION

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Talipes equinus is, and will probably remain, the most common indication for a surgical intervention on spastic children. The classical lengthening of the Achilles tendon, however, gives in too many cases a poor definitive result. Many cases must be reoperated on account of recurrence, and the risk of talipes calcaneus is not negligible. This method is therefore in many cases unreliable or unsuitable.

One can distinguish two types of talipes equinus among spastic children, one type where the talipes equinus cannot be corrected even when the kneejoint is flexed at a right angle, the other type where the foot can be brought to or past the right angle when the knee is flexed. In this last and largest group the talipes equinus is caused by a contracture in the gastrocnemius. It is then reasonable to disconnect in one way or another this muscle, i.e. to recess it. *Silverskiöld* solved the problem by his transferring of the gastrocnemius origin. *Vulpius* had earlier tried the same thing by dividing the isolated gastrocnemius tendon distally. The results of the Silverskiöld-operation are in some cases very good, while the Vulpius operation by and large has no better effect than the common lengthening of the Achilles tendon.

Luther Strayer (1950) described another type of gastrocnemius recession. Briefly, the operation is performed in the following manner: long curved incision along the calf. One identifies the nervus suralis and keeps it aside, makes one's way medially and laterally between gastrocnemius and soleus and isolates completely the gastrocnemius from all connections with the soleus and with the fascia all the way to the origin of gastrocnemius at the femur. This can be performed by blunt dissection by the finger and usually causes no difficulties. On older children and adults the connections are considerably firmer and may have to be parted by sharp dissection. Then the gastrocnemius part

of the Achilles tendon is separated from the soleus part and cut distally. The gastrocnemius is now completely free from all connections except the origin proximally.

The plantaris tendon is also cut. The foot is flexed to right angle or less, and the gastrocnemius is sewn in the new position to the tendon of the soleus with a few sutures. Apply skin suture, plaster cast from toe to groin with the foot in right angle and the knee fully extended. The cast is changed after four weeks, when the patient is allowed to get up. He should retain the cast or bandage and nightsplints as long as there is any tendency to flexion in the knee.

Strayer (1958) reported his results and the indications for the operation that he found valid. He regards the procedure particularily indicated for spastic diplegics under six years of age, who still can not walk. If such children have walked with more or less improper posture for a long time, he feels that his results are poorer. He considers that this is due to the pathologically exaggerated stretch reflexes which have been too firmly established. With the common spastic infantile hemiplegia the operation is always well indicated and an improvement is always to be expected. In athetosis it is not indicated.

During the discussion following *Strayer's* report *Frederic C. Bost* in San Francisco said that at his clinic, since 1950, Strayers operation had been used almost exclusively instead of the older lengthening of the Achilles tendon. *Bost* had 177 operations of which 155 had been followed up with 88 % excellent or good results.

At the orthopaedic clinic in Borås we have since the autumn of 1960 performed 34 operations according to this method on 21 spastic patients of ages between 4 and 25 years. Of course no definite results can be reported yet. The primary results, however, have been good in all cases. The most striking feature is the originally unforeseen gains that have been achieved on account of the conspicuously reduced reflex activity.

Not only is the talipes equinus eliminated, but there is also often a very manifest reduction of the adductor spasm in the hip and the flexion tendency in the knee-joint and the whole pattern of motion is conspicuously normalised. This is probably due to a reduction of reflex eliciting impulses, achieved by the isolation of the gastrocnemius, whereby the intensity of the stretch reflexes is reduced. Another advantage is that the risk for talipes calcaneus is eliminated. The immediate results of this simple operation have encouraged us to continue to use it. Follow-up studies will be published.

SUMMARY

Gastrocnemius recession was performed in 34 cases of spastic talipes equinus. The preliminary results were good. The method is to be recommended.

RESUME

Une résection du gastrocnémien a été pratiquée dans 34 cas d'équinisme spasmodique. Les résultats préliminaires ont été bons. La méthode est recommandée.

ZUSAMMENFASSUNG

Gastrocnemiusresektion wurde in 34 Fällen von spastischem Spitzfuss vorgenommen. Die vorläufigen Ergebnisse sind gut. Die Methode kann anbefohlen werden.

REFERENCES

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