NEW OPERATIVE METHOD OF TREATMENT OF THE EXTERNAL TIBIAL BONE

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External tibial bone (os tibiale externum) occurs as an additional ossicle in man in 10—15 per cent of the cases. According to our statistical data it occupies the half (52 per cent) of all additional foot ossicles. In the Orthopaedic Clinic of the Higher Institute of Medicine in Varna a total of 48 patients with 77 feet with an external tibial bone were treated during a 25-year period. Of them 74 per cent were females. The number of out-patients treated was, however, much greater, indeed.

Surgical treatment in cases with external tibial bone is relatively rarely applied. In our Clinic it is performed in 31 per cent of the cases. An indication for operation exists as follows:

a) when ossicles are large in size and protrude under the skin of foot medial edging;

b) when it causes pains due to pressing by common shoes and when walking;

[c) when it causes plano-valgus foot deformation.

The operative method existing until now consists in replacement of this additional ossicle and reinsertion of the tendon of m. tibialis posterior on the navicular bone or on the neighbouring tissues (1—4). The disadvantage of this surgical method consists in the fact that the insertion mentioned on the navicular bone is insecure. Muscular strength together with plano-valgus foot posture often leads to extortion of the muscular insertion which can not be roentgenologically ascertained because of absent ossicle. This induces functional foot disorders and plano-valgus deformity increase.

We applied Young’s modified operative technique for longitudinal arch formation without involving the additional ossicle in 3 patients but late results remained unsatisfactory.

Now we suggest a new operative method of treatment of os tibiale externum realized in the following way:

Under general anaesthesia by controlled haemostasis a 4—5 cm long section is performed on foot medial margin in the area of insertion of m. tibialis posterior tendon on the additional ossicle itself. Ligament between os tibiale externum and tuberositas naviculare is incised. Articulating or contact surface and lateral one of os tibiale externum is freshened with restoring of the insertion of m. tibialis posterior tendon on it. Through the ossicle a channel is bored with direction from outside, back and above towards inwards, forward and upwards. Then navicular bone is inspected. If a clinical and roentgenological «cornual navicular bone» is presented this growth is resected. Then a lair for the os tibiale externum prepared is formed. Lair is in the area of tuberositas naviculare or even a little lower that enables the realization of a better foot supination. Size and form both must be corresponding to these of the present os tibiale externum thus navicular bone seems complete when laid in the lair. Os tibiale externum is
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fixed by a screw to os naviculare in this position. By this way m. tibialis posterior shortening is achieved which influences favourably on foot supination. Suture and plaster boot setting for one month is performed at good formation of the foot longitudinal arch. Orthopaedic insole for the longitudinal arch is used after plaster removing. Screw can be extracted 6 months after operation (fig. 1).

The advantages of the operative method proposed consist in the following:

1. Os tibiale externum is not replaced but even used as a good osteosynthetic and biological material for insertion of m. tibialis posterior to the navicular bone.

2. Insertion of m. tibialis posterior tendon is restored for the external tibial bone.

3. Fixation of os tibiale externum in a well-formed lair with contact of cortical and spongyous parts both between two ossicles together with screw holding ensures complete and solid healing of bone with bone and warranted tendon insertion without any risks of its extoring.

4. Shortening of m. tibialis posterior tendon influences favourably on foot supination thus correcting plano-valgus deformity.

A total of 5 patients are already operated by this new method with excellent functional and cosmetic results. Operative technique remains routine for future patients with os tibiale externum.

REFERENCES

НОВЫЙ ОПЕРАТИВНЫЙ МЕТОД ЛЕЧЕНИЯ НАРУЖНОЙ БОЛЬШЕБЕРЦОВОЙ КОСТИ

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РЕЗЮМЕ

Наружная большеберцовая кость является наиболее часто встречающейся дополнительной костью стопы. За 25 лет в стационаре лечилось 48 больных, а общее число затронутых этим нарушением стоп — 77.

31 % больных, лечившихся стационарно и амбулаторно, было применено оперативное лечение. Результаты оперативной техники посредством удаления наружной большеберцовой кости и вторичного прикрепления сухожилия задней большеберцовой мышцы к ладьевидной кости, как и модифицированная техника Young для оформления продольного свода, неудовлетворительны.

Предлагаемая автором оперативная техника состоит в оформлении в ладьевидной кости места, отвечающего по размерам наружной большеберцовой кости, после чего дополнительная кость фиксируется винтом на новом месте. Этим методом было оперировано 5 больных с отличным функциональным и косметическим результатом.