Influence of the metatarsal length after Weil osteotomy as a clinical prognostic factor.

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No conflict to disclose
ABSTRACT:

Metatarsalgia is a common report in patients seeking care for foot problems.

Distal oblique metatarsal osteotomy is an option following failure of nonsurgical measures.

We made a modified Weil osteotomy, with a slice resection of 2 mm, besides shortening the metatarsal.

ABTPé (Brazilian Association of Foot and Ankle)
METHODS:

We studied 53 feet, after Weil osteotomy of the second or second and third metatarsal, using the Maestro’s method, we shared in two groups:
A- second metatarsal longer or the same length than the third.
B- second metatarsal shorter than the third.

We evaluated: AOFAS score, VAS and the incidence of transfer metatarsalgia to the third metatarsal. We also evaluated if the stability of second metatarsophalangeal (MTP) joint influences the incidence of transfer metatarsalgia to the third.

It was our planning before surgery make the second longer or the same size as the third.
HYPHOTESIS:

0- After the Weil osteotomy the second metatarsal shorter than the third does not influence the clinical outcome.
1- After the Weil osteotomy the second metatarsal shorther than the third does influence the clinical outcome.
SECONDARY HYPOTHESIS:

At the beginning of study we had a high rate of floating-toe, than we changed the protocol and started to stabilize the MTP joint for 4 weeks with a 1.5 mm or 1.2 mm K-wire.

0- MTP joint stabilization does not change the incidence of floating-toe.
1- MTP joint stabilization does change the incidence of floating-toe.

ÀBTPé.
MAESTRO’S METHOD:
JOINT STABILIZATION
RESULTS:

- Group A: 35 feet (66%), Group B: 18 feet (34%).
- AOFAS: 86,2 (group A) X 82,7 (group B), p=0,35.
- VAS: 1,26 (group A) X 1,67 (group B), p=0,24.
- Transfer metatarsalgia: 9% (group A) X 17% (group B), p=0,40.
- 83,3% of transfer metatarsalgia to the third had preoperative second MTP joint stable.
- Group A: 2º MT from 0 mm to +7 mm.
- Group B: 2º MT from -0,1 mm to – 2 mm.
- Floating-Toe: with stabilization= 26,7% X without stabilization= 65,2%, p=0,006.
DISCUSSION:

The second metatarsal ranging from +7 mm to – 2 mm to the third metatarsal did not have an effect on AOFAS score, VAS or incidence of transfer metatarsalgia to the third metatarsal.

Although, there was no statistics difference in the incidence of transfer metatarsalgia, there was a difference from 9% to 17%. Maybe, with a bigger number of patients we could find statistics difference.

In 83,3% of transfer metatarsalgia to the third, the second MTP joint preoperative was stable, therefore, in this study, second MTP stability increase the risk.
DISCUSSION:

Temporary anchorage of the MTP joint, with 1,5 mm or 1,2 mm k-wire in slight flexion, reduced the incidence of floating toe from 65,2% to 26,7%.

Even with preoperative planning in 34% of the feet the second metatarsal was shorter than the third, this was not our intention. Then we must be very careful during surgery.

ABTPé.

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