Evans Osteotomy with Locked Plate with Wedge Block for Stage IIB Flat Foot

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**Introduction/Purpose:**
Elongation of the lateral column is indicated only in patients who have a flexible deformity Stage 2B of flat foot. The Evans osteotomy is performed 1.5 or 2 cm from the cuboideal calcaneal joint, and in many publications is maintained by different kind of devices.
Our hypothesis is that Evans osteotomy, with blocked plates with a wedge block, without the use of bone graft, maintain the correction obtained at one year after surgery.
The primary objective was to evaluate the radiological results at the postoperative year of the osteotomy.
Secondary objectives were to evaluate the persistence of the correction obtained between the 3 months and the year of the postoperative period and to evaluate the functional outcomes with AOFAS score.

**Methods:** We studied a total of 12 patients, 14 feet. with stage 2B flat foot, in all cases surgery was performed by the same specialist between March of 2011 and March of 2014 in the Service of foot and ankle of our institution.
Inclusion criteria were: patients with type 2B flat foot, submitted to external column elongation, with plates blocked with a 6 to 10 mm wedge block, without the use of bone grafting, minimum follow-up of 1 year.
Exclusion criteria: revision of previous surgery, another type of material used for elongation of the external column, neurological sequelae.
The study was performed retrospectively through clinical records database, data collection and measurements were performed by 2 second-year Foot and ankle fellow trained in the same institution.
Statistical analysis was performed with the T-student test.

**Results:** A total of 12 patients / 14 feet were evaluated during the study period, with a diagnosis of flatfoot type 2B. The average age was 57 years (32-65 years), 11 (78.5%) were female.
No statistically significant difference was observed in any of the radiographic variables measured, at 3 months and at 12 months postoperatively.
The preoperative AOFAS score, was 54 points. At the first year was 93 points. Consolidation was achieved at 3 months in all cases.
The complications found were 2 superficial infections and 1 wound dehiscence. As a late complication, there was only 1 case of cuboidal calcaneal osteoarthritis that did not require surgical resolution.

**Conclusion:** Evans osteotomy for elongation of the external column provides a reproducible and reliable method to restore the normal functional stability of the midfoot and hindfoot. According to the results obtained in our work, we can conclude that the blocked plates with a wedge lock manage to preserve the corrections obtained with the Evans osteotomy in patients with type IIB flat foot. There is no need of autograft with the consequent risk of comorbidities produced by a second approach to the grafting as well as the complications that could happen with the use of allografts.

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