Extended Distal Chevron Osteotomy : Stable & Accurate Correction of the Angulation and Rotational Profile
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Introduction/Purpose: Numerous corrective osteotomies have been performed for surgical treatment of hallux valgus (HV). One of these procedures is distal chevron osteotomy, traditionally indicated for correction of mild to moderate HV. We proposed a new modification of the chevron osteotomy, extended distal chevron osteotomy, to provide even greater stability by extend the contact surface, as well as more effective and accurate correction of the angulation and rotational profile than conventional osteotomy.

Methods: Between July 2013 and June 2014, the extended distal chevron osteotomy (DCO) was performed for the treatment of mild-to-moderate hallux valgus deformity in 63 feet (Group A) by the same surgeon. For the extended chevron, the first osteotomy was performed to cut 5-10mm from the head of metatarsal to the proximal upper 1/3 of the neck. The second osteotomy was performed to cut 2.5-3.0cm from the upper 1/3 of the neck toward horizontal plane of the plantar surface with an angle of 45~50 degree. Standard foot radiographic measurements, hallux valgus angle (HVA) and intermetatarsal angle (IMA), were recorded to compare with the values of 37 patients (Group B) who were treated by the traditional DCO technique.

Results: Mean patient age was 45.3 (range 15–78) years, and 54 patients were available for follow-up at both one and two years postoperatively. Mean follow-up duration was 13.7 (range 4–26) months. In group A, mean HVA decreased from 32.3° preoperatively to 8.4° at final follow-up, while the angle of group B decreased from 32.4° to 11.4°. Mean IMA decreased from 15.1° preoperatively to 7.3° at final follow-up in group A, while the IMA decreased from 15.1° to 8.9° in group B.

Conclusion: We could verify that the extended chevron osteotomy is more effective for stability and correcting of the angulation and rotational profile than traditional DCO.

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