Proximal Rotational Metatarsal Osteotomy for Hallux Valgus: Technique Description and Prospective Case Series
Pablo Wagner, MD, Emilio Wagner, MD, Diego Zanolli de Solminihac, MD, Cristian Ortiz, MD, Andres Keller Díaz, MD, Ruben Radkievich, MD

Category: Bunion, Midfoot/Forefoot
Keywords: hallux valgus, rotational deformity, proximal metatarsal osteotomy

Introduction/Purpose: Hallux valgus combines two deformities, the metatarsus varus and metatarsal internal rotation. The rotational deformity is seldom corrected during surgery, but is a known recurrence factor. Most techniques only correct the metatarsus varus (scarf, chevron, etc). We present a prospective case series using a novel metatarsal rotational osteotomy called PROMO (proximal rotational metatarsal osteotomy) which simultaneously corrects the metatarsal internal rotation and varus deformity by rotating the metatarsal through an oblique plane osteotomy. This is performed with no bone resection. Our objective was to report this new technique, preliminary results, its advantages and complications.

Methods: 20 consecutive patients (17 women) with Hallux Valgus, average age 45 (25-55), were operated using this technique. The average preoperative intermetatarsal angle (IMA) was 15 degrees with an average Hallux internal malrotation of 30 degrees and a sesamoid malposition of grade V or more in all cases. Postoperatively, sesamoids position, Hallux rotation, IMA and metatarsal length were registered. They were followed for 1 year (8-14 months). The surgical technique is described, with its potential benefits and drawbacks. The radiological outcome, postoperative LEFS score, recurrence rate (IMA increase >5 degrees) and complications were registered.

Results: Well positioned sesamoids (grade IV or less) were obtained in all patients postoperatively, with a complete Hallux rotational correction. Postoperative IMA was 5 degrees, achieving a complete metatarsal varus correction. No metatarsal shortening was observed whatsoever. No recurrence has been observed until final follow up. Preoperative and postoperative LEFS scores were 58 and 73 respectively.

Conclusion: The PROMO has the advantage over other osteotomies that it can reliably correct, both metatarsal malrotation and varus deformities, achieving a complete deformity correction and hopefully decreasing recurrence rate. The surgical technique has been studied and refined extensively, in order to simplify it and make it reliable. Although more patients and follow-up are needed, the authors believe it is a promising surgical technique which addresses a previously not considered hallux valgus deformity component.

Foot & Ankle Orthopaedics, 2(3)
DOI: 10.1177/2473011417S000081
©The Author(s) 2017

This open-access article is published and distributed under the Creative Commons Attribution-NonCommercial 3.0 License (http://www.creativecommons.org/licenses/by-nc/3.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).