

Sliding distal metatarsal minimally invasive osteotomy (S-DMMO) for correction of bunionette deformity: medium-term results

Jorge Del Vecchio, MD, Mauricio Ghioldi, MD, Lucas Chemes, MD, Miki Dalmau-Pastor, PhD

Category: Midfoot/Forefoot

Keywords: Forefoot, bunionette, percutaneous surgery

Introduction/Purpose: Bunionette refers to painful lateral prominence at the fifth metatarsal head. For refractory cases, surgical intervention is indicated. Several operative treatments have been used to treat this deformity. Open surgery has been associated with wound healing problems, symptomatic hardware and infection. Recently, there has been a growing interest in the utilization of minimally invasive surgery (MIS) essentially because of its inherent advantages, including less surgical trauma and preservation of blood supply. This has a direct impact in the patient leading to lower morbidity rates and faster recovery with immediate weight bearing.

The purpose of the study was to describe both clinical and radiographic medium-term results of a sliding distal metatarsal minimally invasive osteotomy (S-DMMO) for correction of bunionette deformity.

Methods: This is a retrospective review of patients who underwent S-DMMO to treat symptomatic bunionette deformity. We studied 46 feet from 36 patients, who were treated between Feb 2012 and March 2016. The surgeries were performed by two surgeons trained in minimally invasive surgery or percutaneous. The average follow-up was 49,74 years (33-70). The average age was 48 years (25-76). Radiographic measurements and clinical assessment were obtained preoperatively, six weeks postoperatively, and at final follow-up. Radiographic assessment includes evaluation of the fifth metatarsophalangeal angle, 4-5 intermetatarsal angles and medial osteotomy displacement (mm). Clinical evaluation included the lesser toe American Orthopaedic Foot and Ankle Society (AOFAS) score. The subjective satisfaction rate was measured using the Coughlin Score.

Results: The mean 4-5 intermetatarsal angles was reduced from 10,88° to 7,1° and the fifth metatarsophalangeal angle was reduced from 14,7° to 6,47° postoperatively. Functional and clinical outcome, as assessed by a postoperative lesser toe AOFAS score showed good and excellent results (80-100 points) in all feet. The mean AOFAS score improved from 62,81 pre-operatively to 92,42 points at final follow-up. Consolidation of the osteotomy site was achieved in all cases with a periosteal callus. According to the Coughlin classification system patient's subjective assessments were: excellent (32 feet), good (12 feet) and fair (2 feet). No mayor complications were seen. One patient required reoperation (resection of symptomatic residual fifth metatarsal). Other complications found were: 1 superficial infection and 1 wound dehiscence.

Conclusion: Our results showed that S-DMMO to be a safe and reliable technique for surgeons trained in MIS surgery. The mentioned is a novel, extrarticular and epiphary technique that doesn't need to be stabilized with osteosynthesis and provides a definite advantage over other techniques described. It is necessary to emphasize the importance of prevention of complications by a careful preoperative planning, a correct surgical procedure (specific instruments are required) and a strict postoperative control.



Foot & Ankle Orthopaedics, 3(3)
DOI: 10.1177/2473011418S00501
©The Author(s) 2018