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Surgical treatment of moderate and severe hallux valgus: outcomes of the first 30 patients treated using the percutaneous chevron technique

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ABSTRACT

Introduction: Hallux valgus is a multifactorial disease, and heredity is the main associated factor. Pain and discomfort when using closed-toed shoes occur in many cases, adversely affecting quality of life. Surgical treatment is indicated when pain and disability persist after conservative treatment. Currently, more than 150 surgical techniques are described for hallux valgus correction, with no consensus regarding the best treatment. With the advent of minimally invasive techniques for hallux valgus correction, Vernois developed the percutaneous chevron osteotomy. This technique allows up to 100% lateral translation of the contact area of the osteotomy.

Objective: the objective of the present study was to assess the correction of radiographic parameters, clinical improvement and potential complications of the first 30 cases of moderate and severe hallux valgus operated on at our hospital using the percutaneous chevron technique.

Methods: A total of 26 patients (30 feet) underwent surgery. The following parameters were measured in the pre- and postoperative periods: the first metatarsophalangeal (MTP) angle, the intermetatarsal angle between the 1st and 2nd metatarsals (IMA), the distal metatarsal articular angle (DMAA) and the pre- and postoperative American Orthopedic Foot and Ankle Society (AOFAS) scores, with a minimum follow-up period of 6 months.

Results: The mean age of the patients was 52.3 years. During the preoperative period, the mean AOFAS score was 45.6; it increased to 90.3 after the procedure, indicating a statistically significant improvement. The mean MTP angle, IMA and DMAA were 29.7°, 14.2° and 14.2° before surgery and 12.8°, 8.2° and 11.1° after surgery, respectively. The improvements in the MTP angle and the IMA were also significant. There was no decrease in angles or worsening of AOFAS scores during follow-up.

Conclusion: The percutaneous chevron technique was safe and effective for correcting cases of moderate and severe hallux valgus, with significant improvements in clinical and radiological parameters and a low rate of postoperative complications.

Keywords: Hallux valgus/surgery; Hallux valgus/radiography; Osteotomy/methods; Minimally invasive surgical procedures.

