Phalangeal Osteotomy…To Perform or Not to Perform: Changes in Functional Outcomes of Patients with Moderate to Severe Hallux Rigidus Undergoing Cheilectomy

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Category: Bunion

Keywords: Hallux Rigidus, cheilectomy, Moberg/phalangeal osteotomy

Introduction/Purpose: As the hallux valgus deformity progresses, patients can get mild to moderate arthritis of the metatarsophalangeal (MTP) joint. The degenerative process of MTP arthritis results in reactive tissue formation and proliferation of osseous and cartilaginous structures. For some patients, the results in dorsal bone spurs and pain with great toe dorsiflexion of irritation from shoes. Reconstructive procedures provide a surgical option for patients to address pain and functional limitations, prior to subchondral bone cyst formation and loss of joint space. Patients who underwent cheilectomy alone have been shown to have a high failure rate and progress to advanced disease. A phalangeal dorsiflexion osteotomy has become increasingly more popular amongst foot and ankle surgeons with the hopes of decreasing failure rate and improving early outcomes.

Methods: This study was a retrospective review of prospectively collected data from 385 patients treated for hallux rigidus at a large academic medical center between July 2015 and November 2016. All patients underwent either a cheilectomy or cheilectomy with phalangeal osteotomy of the MTP joint. Collected patient reported outcomes (PROs) included in this study were SF12M, SF12P, FAAM, VAS and PASS scores. Mann-Whitney t-test was performed using GraphPad Prism version 7.0b for Mac to compare procedure groups. Exclusion criteria included poly-trauma, revision of same procedure, and lack of pre or post-operative.

Results: Eighteen patients met criteria, 8 underwent cheilectomy and 10 had a cheilectomy with osteotomy procedure. The average age was 51.9 amongst the cohort, with a total of 13 female and 5 males. Patients who underwent cheilectomy with osteotomy procedure had better outcomes across all outcome measure scores. When comparing postoperative scores, cheilectomy with osteotomy patients showed significantly higher scores compared to cheilectomy alone patients: SF12-M (56 vs 36, respectively; p=0.0333), and SF12P (52 vs 30, respectively p=0.0095). VAS scores and FAAM scores showed no statistical difference between the two cohorts. Despite surgical intervention, 50% of patients who received cheilectomy alone reported more pain post-operatively compared to no reports of worsening pain in patients who received cheilectomy with osteotomy.

Conclusion: Patients with moderate to severe hallux rigidus demonstrate improved functional outcomes with phalangeal osteotomy in conjunction with cheilectomy compared to cheilectomy alone. Further research with larger cohorts would be beneficial to confirm the reports of this study and expand upon aspects of care that contribute to patient satisfaction and performance.

Foot & Ankle Orthopaedics, 2(3)
DOI: 10.1177/247301114175000128
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