The Use of Calcaneus Osteotomy for Treatment of Symptomatic Muller Weiss Disease.

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Introduction/Purpose: Muller Weiss disease (MWD) is characterized by lateral navicular necrosis which is associated with a varus alignment of the subtalar joint, a short 1st metatarsal, varying degrees of arthritis of the talonavicular-cuneiform joints and a paradoxical flatfoot deformity in advanced cases. The literature is replete with various methods of arthrodesis of the hindfoot for treatment of refractory painful deformity. We present the results of a unique, previously unreported, method of treatment using a calcaneus osteotomy incorporating a wedge and lateral translation.

Methods: Fourteen patients with MWD who were treated with a calcaneus osteotomy were retrospectively reviewed. There were seven females and seven males with an average age of 56 years (range 33-79). Using Maceira’s grading we found the following: one grade 5, five grade 4, four grade 3 and four grade 2 patients. Patients had been symptomatic for an average of eleven years (range 1-14), and all underwent initial conservative treatment with an orthotic support that posted the heel into valgus. The primary indication for surgery was a limited but positive response to the use of the orthotic support, and a desire to avoid an arthrodesis of the hindfoot. Other than the described calcaneus osteotomy, no additional procedures were performed.

Results: Patients were followed for an average of three years following the procedure (range 1 – 7 years). Patients rated their pain on a visual analogue pain scale as an average of 8 (range 6-9) prior to surgery and an average of 2 postoperatively (range 0-4). The AOFAS scores improved from a mean of 29 (range 25 – 35) preoperatively to a mean of 79 (range 75-88) postoperatively. Hindfoot range of motion remained unchanged, so too the extent of arthritis of the navicular complex. One patient experienced ipsilateral knee pain for 6 months postoperatively which resolved following physical therapy. One patient experienced intermittent midfoot pain and felt that the surgery was not successful. No patient has since required an arthrodesis.
**Conclusion:** While the traditional treatment of Muller Weiss disease has been various types of hindfoot arthrodesis, it has been our experience that these procedures are not ideal unless the heel varus is simultaneously corrected. Since the majority of MWD patients respond to an orthotic support which changes the load of the hindfoot and forefoot, we believed that selected patients would respond positively to a calcaneal osteotomy as an alternative treatment. Although the follow up in this series is relatively short, the patients responded remarkably well to the use of a calcaneus osteotomy, however we cannot predict if an arthrodesis will be necessary in the future.