20 Degree Post Traumatic Ankle Valgus and Distal Lateral Tibial Osteonecrosis Treated with Staged Deformity Correction and Total Ankle Arthroplasty: A 5 Year Follow Up

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Introduction/Purpose: The purpose of this review is to present a case of post-traumatic ankle valgus and distal lateral tibial osteonecrosis successfully treated with staged deltoid repair, opening wedge tibial osteotomy, fibular lengthening, syndesmotic fusion and total ankle arthroplasty.

Methods: Initial surgery consisted of ankle joint arthrotomy and deltoid imbrication. The second surgery consisted of a tibial opening wedge osteotomy with autogenous cortical fibular bone graft superior to the area of osteonecrosis to correct the 20 degree ankle valgus. Fibular lengthening osteotomy and fusion of the distal syndesmosis were also performed. CT scan confirmed bony consolidation at the distal tibiofibular syndesmosis as well as union of the allograft opening wedge. The final surgery was total ankle joint replacement with bone grafting of the area of osteonecrosis.

Results: After 5 years of follow up the patient has progressed out of his AFO to full weightbearing. He reports no ankle pain, improved function and range of motion and is ambulating independently with no assistive devices.

Conclusion: We successfully treated a case of distal lateral tibial osteonecrosis, and a 20 degree ankle valgus with staged deformity correction and ankle replacement. Radiographs demonstrate a well seated and positioned implant. We believe that with proper alignment that total ankle arthroplasty is a safe treatment option in the face of bone infarction.

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