Arthrodesis of the subtalar and talonavicular joints for correction of symptomatic hindfoot malalignment

References:


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Abstract: BACKGROUND: Triple arthrodesis has long been used for the treatment of painful malalignment or arthritis of the hindfoot. However, the effect of fusion on adjacent joints has sparked interest in a more limited arthrodesis in patients without involvement of the calcaneocuboid joint. METHOD: Results of 16 feet in 14 patients who had a modified double arthrodesis for symptomatic flatfoot, cavovarus deformity, or hindfoot arthritis were reviewed retrospectively with a minimum followup of 18 (range 18 to 93) months. The most common diagnosis contributing to the hindfoot deformity was pes planovalgus. All operations were done with a consistent technique using rigid internal fixation with screws. In 15 feet, a concomitant gastrocnemius recession for equinus contracture was done at the time of the primary surgery. Clinical evaluation was based on the American Orthopaedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot Scale in addition to subjective assessments of pain, function, shoewear, cosmesis, and overall satisfaction. Radiographic evaluation included measurements of the anterior-posterior talo-second metatarsal angle, lateral talocalcaneal angle, and lateral talo-first metatarsal angle, and notation of arthritic changes of the ankle, calcaneocuboid, and midfoot joints, as well as an assessment of time to union of all arthrodeses. RESULTS: The average AOFAS Ankle-Hindfoot Scale improved from 44.7 preoperatively to 77.0 postoperatively (p < 0.01). Subjectively, patients experienced improvements in pain, function, cosmesis, and shoewear. Overall, all patients were satisfied and would have the procedure again under similar circumstances. Radiographically, all parameters statistically improved. There was an increase in arthritic scores for six ankle, six calcaneocuboid, and five midfoot joints. One talonavicular joint nonunion occurred in a rheumatoid patient, requiring revision arthrodesis. CONCLUSIONS: We have concluded that simultaneous arthrodesis of the talonavicular and subtalar joints is a reasonable treatment in the subset of patients with symptomatic hindfoot malalignment whose calcaneocuboid joints are not involved in the primary disease.