Total Ankle Replacement and Concomitant Subtalar or Chopart Joint Arthritis

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Introduction:
As total ankle replacement (TAR) has increased in both popularity and success over the last decade, it finds itself as the treatment of choice for many patients. However, how one should manage adjacent joint disease in the setting of TAR has yet to be determined. Some treatment options include arthrodesis of the adjacent joint simultaneously with the TAR, while others recommend a staged approach.

Our management of ankle DJD with concomitant subtalar joint (ST) or Chopart joint (CJ) arthritis is to perform TAR alone and then treat the adjacent joint disease in a staged fashion if needed. We sought to determine the incidence and natural history of TAR with concomitant subtalar or Chopart joint DJD.

Method:
We performed a retrospective chart review of all patients who underwent a STAR from 1998 to 2000. Radiographs at peri-operative and most recent follow up were reviewed. The subtalar and Chopart joints were graded according to the Kellgren and Lawrence Criteria for OA on peri-operative and follow up radiographs. Patients were grouped into radiographic insignificant arthritis (grades 0,1, and 2) and radiographic significant arthritis (grades 3 and 4). A chart review was performed to evaluate the rate of revision surgery or adjacent joint arthrodesis.

Results:
Total of n=84 ankles. There is an 11% incidence (9/84 ankles) of significant STJ and CJ arthritis in those who underwent STAR. Only 1 of the 9 ankles with preexisting significant arthritis required subsequent arthrodesis, and this was due to talar component subsidence rather than simply subtalar degeneration.

7% (n=5) of the remaining ankles (radiographic insignificant arthritis n=75) with no initial significant STJ or CJ arthritis progressed to radiographic significant arthritis. None, however, required further surgical intervention for adjacent joint arthritis.

Conclusion
Our data demonstrates the natural history of the adjacent joints in the presence of TAR. We have shown that compared to ankle arthrodesis, preserving ankle motion with TAR spares the subtalar and Chopart joints from arthritis and subsequent fusion at midterm follow up. Our data also suggests that TAR alone is sufficient for managing predominant ankle arthritis with concomitant secondary adjacent joint disease.