Does Middle Facet Talocalcaneal Coalition Predispose the Subtalar Joint to Arthrosis?

A Retrospective CT Study of 21 Surgically Managed Patients.

Introduction
Symptomatic middle facet talocalcaneal coalition (MFTCC) is frequently managed by rearfoot fusion or resection. The extent of rearfoot arthrosis associated with MFTCC in a large surgically managed cohort has not been clearly elucidated in the literature. This study identifies the type of MFTCC (fibrous or osseous) and the extent of posterior facet arthrosis.

Methods and Procedures
A retrospective review involved 21 patients (35 feet) with symptomatic MFTCC who were surgically treated for the MFTCC on at least one foot over a 12 year period. Preoperative CT scans were evaluated for the type of MFTCC, and the extent of posterior facet arthrosis was categorized into one of three patterns (Table 1): normal/mild arthrosis (Stage I), moderate (Stage II), and severe (Stage III).

Results
Eleven patients were male and 10 were female with an average age of 20 years. There were 21 left feet and 14 right feet. Two thirds of the sample (14 patients) had bilateral coalition identified. Results are illustrated in the following pie charts.

Discussion
Painful MFTCC is often associated with rearfoot arthrosis. Isolated arthrosis of the STJ may occur and is best determined with CT. A Retrospective CT Study of 21 Surgically Managed Patients. Luhmann et al demonstrated that resection had a statistically significant poorer outcome when associated with a MFTCC >50% of the surface area of the posterior facet identified with CT in 25 feet. In regards to narrowing of the posterior facet on CT, Wilde et al reported a less optimal result in those feet with a narrowed posterior facet in their review of 20 feet. Comfort et al found good or excellent clinical results in 77% of 17 MFTCC resections that involved less than one third of the entire STJ surface.

Significance of Findings
Symptomatic MFTCC may be surgically managed with MFTCC resection +/- single stage flatfoot reconstruction, or appropriate rearfoot arthrosis. Because STJ arthrosis may dictate whether or not a fusion should be performed, it is important to stage the extent of the arthrosis. This is the first investigation that provides an objective means of joint evaluation and the extent of arthrosis associated with MFTCC is more clearly defined. The results suggest that osseous MFTCC may offer a stabilizing effect in the prevention of endstage arthrosis (Stage III) of the STJ because no Stage III arthrosis was identified in this group. Endstage arthrosis was only found in the fibrous MFTCC group, suggesting that the micromotion associated with fibrous coalitions allows for greater degeneration of the posterior facet. Additionally, there were fewer patients with symptomatic osseous MFTCC requiring surgery compared to fibrous MFTCC in this cohort. This suggests that the type of coalition may be important in determining whether or not the arthrosis is a symptomatic component of the condition.

References