The NYCPM Student Chapter of the American College of Foot and Ankle Surgeons, one of two student surgery clubs at NYCPM, has won first place in the Poster Competition at the ACFAS Annual Scientific Conference in Las Vegas, Nevada. The poster, titled “Presentation and Treatment of a Fibrocartilaginous Navicular-Medial Cuneiform Coalition: A Case Report”, was researched and written by NYCPM students Todd M. Chappell, Prakash N. Panchani, Heidi M. Godoy, Sarah Daigle, Adisa Mujkic, and Christopher L. Lovell, mentored by Faculty Advisor Johanna Godoy, DPM, Instructor of Surgical Sciences at NYCPM.
A case is presented of a rare isolated navicular-medial cuneiform coalition (N-M MCC) in a 39-year-old male patient. An isolated N-M MCC often presents asymptptomatically until the 4th decade and are thus often overlooked.

Presentation

A retrospective chart and diagnostic imaging review is presented of an active 39-year-old male with progressive pain of the medial ankle and dorsum of his left foot. Upon presentation, the patient reported being seen by another practitioner at the initial onset of pain in 2009 at which time he was treated with custom foot orthoses. He reported that the pain was intermittent and progressively worse over the next 21 months, and recently presented to the emergency department with pain of 9/10 on visual analog scale. He was prescribed NSAIID and bilateral radiographs were taken which revealed degenerative joint changes along the medial column (Figure 3).

Past medical history includes psoriasis, hypercholesterolemia, and GERD. The patient was taking buspirone, clobetasol, celecoxib, oxaprozin, and naproxen; he denied any allergies.

On physical exam, ossa was noted over the dorsum of the foot and ankle bilaterally. Pain was elicited on palpation along the course of the posterior tibial tendons and distal to its insertion, medial and lateral gutters of the ankle, and collateral ligaments bilaterally. Weakness of inversion and pain with limited range of motion (ROM) of the ankle joint, midtarsal joint, and 1st metatarsal phalangeal joint was noted bilaterally. Neurovascular status was intact. The patient’s arch height was +3 off weight bearing and non-reducible on weight bearing bilaterally. The initial diagnosis was a rigid cavus foot type bilaterally. The patient was referred to physical therapy (PT) and rheumatology (RR).

On the subsequent visit, the patient reportedly failed to follow up with the consults to PT and RR, and over the course of that month his pain returned with greater severity and more notable consistency. An MRI foot was applied bilaterally and a CT scan was ordered. CT scan revealed bilateral fibrocartilaginous N-M MCC at the plantar aspect of the joint (Figure 4). Due to the progressive nature of the pain and the degenerative changes in the midfoot, with increased severity on the left, the patient was scheduled for N-M MCC resection and possible joint fusion of the left navicular-medial cuneiform joint (N-M MCC).

Case Study

The patient was non-weight-bearing in a posterior splint for 4 weeks postoperatively. This was followed by a 4-week period of protective weight bearing in a CAM walker and PT. After this period, the patient reported mild posterior heel pain but was permitted to return to a sneaker. At 12 weeks postoperatively, the patient reported mild pain during ambulation at the site of fusion. Physical therapy was continued for resolution of symptoms. At 15 months postoperatively, the patient reported pain at the N-M-C joint, and x-rays reveal progressive alignment of hardware and complete bone healing indicating a successful outcome (Figure 8).

Results

Discussion

There are several etiological theories in the literature on the presence of tarsal coalitions, but none have indisputable evidence.

Although usage of MRI is increasing, CT scan remains the gold standard for diagnosis of tarsal coalition.

Subchondral sclerosis and abnormal articular surfaces at the plantar aspect of the N-M-C joint. None of the patients were consistent with the findings of Cho et al.

There is no consensus regarding treatment of N-M MCC (13). In studies conducted by Miura et al., Haynes et al., and Riles et al., arthrodesis was performed successfully. However, in the study conducted by Ross et al., it was suggested that joint preservation be considered over an arthrodesis in younger patients in an effort to preserve motion of the N-M-C.

Due to the progressive severity of pain, degenerative changes in the midfoot, and an inability to relieve symptoms with conservative therapy, our patient underwent a resection of the coalition, followed by fusion of the N-M-C, resulting in a successful outcome 15 months postoperatively.

A clinician should not overlook N-M MCC in a patient presenting in their 3rd to 4th decade with progressive medial midfoot pain.

References

2. Napsenio DAO, Peterson H.