



POSNA

The Core Curriculum

Accessory navicular

Objectives

1. Describe the clinical symptoms associated with accessory
2. Discuss imaging studies useful for the evaluation of accessory navicular
3. Discuss treatment of accessory navicular

Discussion

The accessory navicular is the most common accessory bone noted in radiography of the adolescent foot. It is sometimes symptomatic, sometimes an incidental finding. It is generally easily seen on the anteroposterior view radiographically, sometimes and oblique may be helpful. Recent studies of imaging techniques have noted that scintigraphy was not reliable for separation of symptomatic from asymptomatic feet. MR imaging noted bone edema, a loss of the normal insertion of the posteriotibial tendon on the plantar surface of the foot, and fibrocartilage between the tendon and its attachment into the accessory navicular. Radiographic variants have been described by Lawson. Kidner described a procedure in 1933 for accessory navicular, rerouting the posterior tibial tendon to provide better dynamic support of the arch. Subsequent writings have noted no difference whether the posterior tibial tendon was rerouted or not, simple excision is effective in relieving symptoms. An interesting follow-up of the natural history of accessory navicular in adult life was documented in 1997, describing patients who presented as a variant of spontaneous rupture of the posterior tibial tendon who actually had a failure of the tendinous attachment to the accessory navicular. A recent modification of the Kidner procedure, fusing the accessory navicular to the main portion has been described.

References

1. Chiu NT, Jou IM, Lee BF, Yao WJ, Tu DG, Wu PS. Symptomatic and asymptomatic accessory navicular bones: findings of Tc-99m MDP bone scintigraphy. *Clinical Radiology* 2000;55(5):353-5.
2. Kiter E, Erdag N, Karatosun V, Gunal I. Tibialis posterior tendon abnormalities in feet with accessory navicular bone and flatfoot. *Acta Orthopaedica Scandinavica* 1999;70(6):618-21.
3. Malicky ES, Levine DS, Sangeorzan BJ. Modification of the Kidner procedure with fusion of the primary and accessory navicular bones. *Foot & Ankle International* 1999;20(1):53-4.
4. Chen YJ, Hsu RW, Liang SC. Degeneration of the accessory navicular synchondrosis presenting as rupture of the posterior tibial tendon. *Journal of Bone & Joint Surgery - American Volume* 1997;79(12):1791-8.

5. Prichasuk S, Siphurmsukskul O. Kidner procedure for symptomatic accessory navicular and its relation to pes planus. *Foot & Ankle International* 1995;16(8):500-3.
6. Miller TT, Staron RB, Feldman F, Parisien M, Glucksman WJ, Gandolfo LH. The symptomatic accessory tarsal navicular bone: assessment with MR imaging. *Radiology* 1995;195(3):849-53.
7. Lawson JP, Ogden JA, Sella E, Barwick KW. The painful accessory navicular. *Skeletal Radiology* 1984;12(4):250-62.
8. Macnicol MF, Voutsinas S. Surgical treatment of the symptomatic accessory navicular. *Journal of Bone & Joint Surgery - British Volume* 1984;66(2):218-26.
9. Ray S, Goldberg VM. Surgical treatment of the accessory navicular. *Clinical Orthopaedics & Related Research* 1983(177):61-6.
10. Sullivan JA, Miller WA. The relationship of the accessory navicular to the development of the flat foot. *Clinical Orthopaedics & Related Research* 1979(144):233-7.
11. Sullivan JA. The child's foot. In: Morrissy RT, Weinstein SL, editors. *Pediatric Orthopaedics*. Philadelphia: Lippincott-Raven; 1996. p. 1077-135.