

Talar Allograft for Posttraumatic Ankle Arthritis

J. Joseph Anderson DPM, FACFAS; Gregory P. Rowe DPM, AACFAS, Zflan Swayzee BS

Purpose

Posttraumatic ankle joint arthritis can cause debilitating pain and limit function. Younger patients that have sustained a traumatic ankle or talar injury are reluctant to have an ankle fusion and insurance companies rarely authorize the use of an ankle replacement in younger patients. The use of a talar allograft can restore function and eliminate pain without having to do a total ankle replacement or an ankle fusion.

Literature Review

Posttraumatic ankle arthritis can develop from 0.9% of ankle and 1% of talar fractures. (1) Symptoms include pain, swelling, locking of the ankle joint, stiffness, ankle instability, and decreased range of motion with synovial effusion. (2) Standard radiographs can be used to view the progression of osteophytic growth and joint space narrowing. Subchondral cysts can also form and be seen in greater detail with a CT scan or MRI. (3) Posttraumatic ankle joint arthritis treatments are guided by the severity of the arthritis, patients' age and the location of the cartilage involved. Treatment options can be arthroscopic debridement, subchondral drilling, cartilage autografts or allografts, total ankle replacement, and ankle arthrodesis. A fresh osteochondral allograft is recommended for lesions >10mm. (4) Complications of these procedures are continued pain, degenerative joint arthrosis, prolonged stiffness, and swelling.

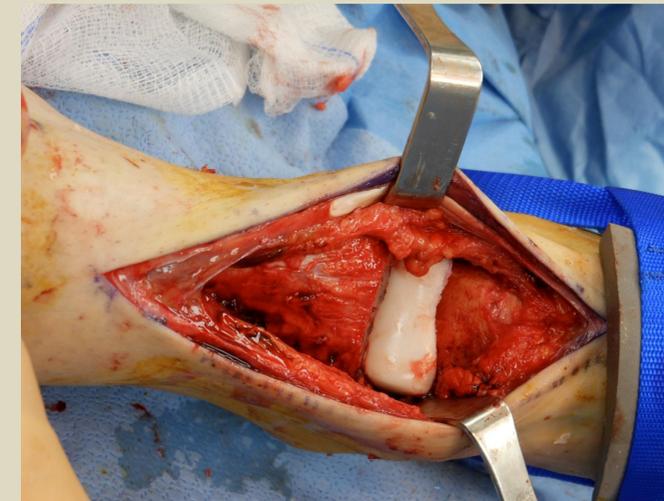


Case Study

A case study is presented on a 39 year old male with a history of right ankle posttraumatic arthritis from a talar body fracture. He can manage to ambulate with a cane, with great discomfort. Radiographic views showed irregular joint space with osteophytic growth and talar dome irregularities. His CT scan and MRI images all confirmed cystic changes within the talar body. The patient exhausted conservative treatment, and was educated on surgical possibilities. He felt too young for an ankle fusion and his insurance company would not authorize a TAR. So a right ankle talar dome allograft was used to reconstruct the ankle joint and was fixated with three 4.0mm surgical screws. A proximal tibial bone graft harvest was performed to optimize graft healing. The patient required a follow up procedure to have his hardware removed, because it was backing out after he started to bear weight. The patient is full weight bearing at 16 months without having to use a cane to ambulate. He is gradually increasing his physical activity.

Analysis/ Discussion

Younger patients are often reluctant to have an ankle arthrodesis, due to the risk of developing arthritis in proximal and distal joints to the fusion. The limitations and restrictions of range of motion and activity are not appealing to the active younger patient. This case study demonstrates the benefit of doing less definitive procedures to decrease pain and avoid or delay TAR or arthrodesis, while increasing physical activity and function in a younger patient. It is recognized that these less definitive procedures also can have complications and fall short of the patient's and surgeon's goals for outcome. The patient needs to be well educated that a definitive treatment of fusion or replacement is still a possibility even after successful allograft surgery.



References

1. Coltart WD. Aviators astralagus. J Bone Joint Surg Br 1952; 34:545-556.
2. Paul GR. Transchondral fractures of the talus. In: Yablon IG, Segal D, Leach RE, eds. Ankle Injuries. New York: Churchill Livingstone, 1983:113-130.
3. Bauer M, Jonsson K, Linden B. Osteochoondritis dissecans of the ankle. J Bone Joint Surg Br 1987; 69:93-96.
4. Southerland, JT; Boberg, JS; Downey, MS; Nakra, A; Rabjohn, LV. McGlamry's Comprehensive Textbook of Foot and Ankle Surgery. 4th ed.2013. 780-802.