The Results of Ceramic Artificial Talus for Aseptic Talar Necrosis

Foot & Ankle Category: Ankle

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Introduction
The aseptic necrosis of the talar body is developed by neck fracture of the talus, alcoholism and induced steroid. Furthermore, it is often occurred by an unknown idiopathy. It is the most difficult to treat for advanced talar necrosis with destroyed dome. We have replaced a ceramic artificial talus for cases with necrosis of the talar body and report good results.

Methods
From 1999 to 2010, 57 feet with 55 patients with aseptic necrosis of the talus had been replaced by ceramic artificial prosthesis. There are 9 men and 46 women, with mean age of 62 years (19 to 89). The necrosis of the talar body was caused by neck and body fracture in 7 patients and idiopathy in 48. There was no alcoholism and case induced steroid. Ceramic artificial prosthesis was made from the image of CT scan of normal opposite talus. The bonding between ceramic talar prosthesis and talar neck was performed by bone cement (10 ankles; first type). However, the loosening between neck of the talus and prosthesis was recognized in some cases. Based on the results, we made the prosthesis (second type) without anchor combined with talar neck and replaced it for 17 ankles without bonding between the neck and prosthesis. But loosening and fracture of the talar neck was developed for same patients. 30 ankles were replaced by whole body (third type) of the talus. Furthermore, 8 patients (first and second type) with revision were rereplaced by whole body. They were assessed pre and postoperatively by AOFAS ankle/hindfoot score system.

Results
Follow-up was from 10 months to 137 months (mean months). Results of first type were 2 revisions by whole body (3 deaths) and excellent 3, good 2, fair 2 and poor 3. Results of second type were 6 revisions and excellent 3, good 5, fair 6 and poor 3. Results of third type were no revision and excellent 22 and good 8. Results of revision by whole body were no re-revision and excellent 3, and good 5.

Conclusion
Follow-up was from 10 months to 137 months (mean months). Results of first type were 2 revisions by whole body (3 deaths) and excellent 3, good 2, fair 2 and poor 3. Results of second type were 6 revisions and excellent 3, good 5, fair 6 and poor 3. Results of third type were no revision and excellent 22 and good 8. Results of revision by whole body were no re-revision and excellent 3, and good 5.