A new surgical method for the end-stage ankle arthritis
–total ankle arthroplasty with artificial talus–

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< Hiroaki Kurokawa >

My disclosure is in the Final AOFAS Mobile App.

I have no potential conflicts with this presentation.
Introduction

Surgical method for **End-stage** ankle arthritis

- Ankle arthrodesis
- Total ankle arthroplasty (TAA)

**Ankle arthrodesis** is considered to be the gold standard for the treatment of end-stage ankle arthritis¹).

While arthrodesis is a reliable procedure, **TAA is often preferred** by patients²).
Intermediate-term results\textsuperscript{2)}

The Ankle Osteoarthritis Scale (AOS) Short Form-36 (SF-36)

\[ \text{arthrodesis} \simeq \text{TAA} \]

Major complication\textsuperscript{2)}

\[ \text{arthrodesis} 7\% < \text{TAA} 19\% \]

The main reason of revision surgery is failure of the talus component\textsuperscript{3)}

To solve this problem, TAA with artificial talus\textsuperscript{4)} (Combined TAA) was performed primary in this study.
Materials

Thirteen patients: **13 ankles** since 2007 to 2014
(osteoarthritis 12, rheumatoid arthritis 1)

The mean duration of follow-up: **35 months**
(range: 12 to 66 months)

The mean age at the surgery: **71 years old**
(range: 61 to 81 years old)

The state of talus was poor in all cases.
Combined TAA was performed primary.
Methods

Evaluated by

Visual Analog Scale (VAS)

Japanese Society for Surgery of the Foot Scale (JSSF ankle-hindfoot scale)

before & after surgery
Results

There were no case that required the revision surgery due to implant failure or deep infection.
Case 1 74-year-old female

2 yrs after op

VAS : 8 → 0

JSSF scale :
45 → 93
Discussion

The majority of revision surgeries were secondary to the talar component loosening\(^3\).

Risk factor

- Osteoarthritis with poor bone stock in the talus
- Severe deformity or osteonecrosis of the talus
- Osteoporosis\(^5\)

Artificial talus is preferable to common talar component because it was not influenced by the status of the talus.
Discussion

Application of the artificial talus for failed TAA was reported to be a good option for salvage\(^6\).

Key points are...
- Restoration of the ROM, and
- Maintaining the leg length

In this study, combined TAA was applied for the patient with degenerative change in the ankle joint with collapse of the talus, and accomplished good results.
Conclusion

The artificial talus could be an useful option to deal with complication of talar component.

In the current study, TAA with artificial talus achieved favorable clinical and functional results for the patient with severe deformity or poor bone stock in the talus.
Reference


