

Revision of Total Ankle Replacement Implant After Aseptic Loosening Secondary to Metal Hypersensitivity

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INTRODUCTION

Implant failure secondary to metal hypersensitivity (MH) is a complication, though rare and often a diagnosis of exclusion¹, potentially overlooked in patients undergoing total ankle replacement, and should be identified and avoided in the preoperative planning process, with majority of cases reported being nickel.²

Several options of addressing this complication include revision arthroplasty with custom made hypoallergenic implants, ankle fusion etc.

CASE REPORT

A 26 year old lady first presented with fracture dislocation of the left ankle that was treated surgically, however eight months post-operation was complicated with secondary osteoarthritis and initially underwent total ankle replacement (TAR).

5 months post-TAR, patient presented with a sinus over anterior ankle preceded by swelling. Clinically joint not inflamed, radiographically noted loosening of implant. Inflammatory, infective markers not markedly raised, however noted eosinophil count increased. Initial management with arthrotomy washout, removal of implant and insertion of cement spacer was performed, intraoperatively no signs of infection seen, histopathological examination and cultures not indicative of ongoing infection.

Upon further history, patient informed she avoided metallic jewellery which caused skin rash. Skin patch test (European Baseline Series S-1000) tested positive for Nickel II Sulfate Hexahydrate 5.0%.

Initially planned for a revision of left ankle arthroplasty with custom made, 3D-modelled talar implant with hypoallergenic alloy, alas as implant was not available, opted for ankle fusion to regain early mobility.

Ten months post removal, proceeded with left ankle hindfoot fusion with femoral bone allograft and demineralized bone matrix. Implant used was tibiotalar calcaneal arthrodesis system, composed of Ti6Al4V alloy³, patient asymptomatic postoperatively locally and systemically. Post-operatively, patient was able to ambulate with air cast application, and regained full mobility without walking aid at 3 months



Figure 1: post removal of TAR, bone cement spacer insertion

CONCLUSION

Ankle fusion remains a mainstay of revision surgery for post TAR patients complicated with aseptic loosening.

Preoperative screening (patch test) should be performed in patients with suggestive history of MH.²

REFERENCES

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