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POST TRAUMATIC POLYETHYLENE FRACTURE IN TOTAL ANKLE REPLACEMENT

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INTRODUCTION:

Total ankle replacement (TAR) has been widely recognized in the treatment of ankle arthritis. TAR has undergone multiple improvements in design and material to enhance clinical outcomes and implant survival. Despite this, there are still a variety of complications associated with this procedure. We would like to share this rare complication of TAR and our experience in managing it.

REPORT:

A 65 years old gentleman underwent mobile bearing total ankle replacement with 6mm polyethylene thickness 4 years ago. He was ambulating well without any complaints until 4 months ago when he was involved in a motorvehicle accident with a twisting injury to his ankle in an inverted position. He initially presented with ankle swelling and pain on weight bearing but was treated conservatively. He was referred to us after persistent symptoms for 2 months.

Clinically, his ankle was deformed in varus, generalised tenderness over anterior ankle with lateral ligamentous laxity and limited range of motions. Plain radiographs as shown in Figure 1 and CT scan were performed which revealed varus tilt of talar dome and displacement of metallic marker without loosening of implant.

Patient underwent replacement of polyethylene insert with Anterior Tibiofibular Ligament (ATFL) repair. Figure 2 demonstrates intraoperative finding of polyethylene fracture at the anteromedial region. There was no loosening of tibial or talar components. A thicker polyethylene of 7mm was replaced and ATFL repair was done with anchor sutures to correct coronal malalignment. Post surgery, ankle was stable in varus and valgus stress without any malalignment.

Figure 1: AP and Lateral Radiograph

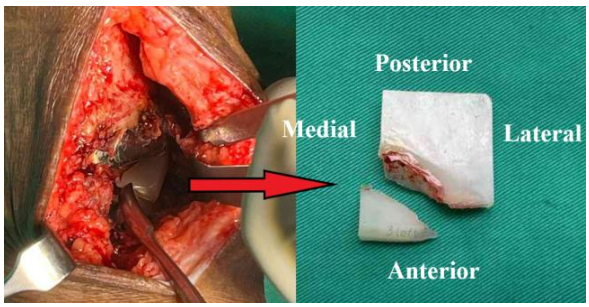

Figure 2: Intraoperative Finding of Polyethylene Fracture

CONCLUSION:

Fracture of polyethylene is a rare but disastrous complication of TAR. Coronal malalignment must be corrected as it leads to increased contact pressure on polyethylene insert which predispose to failure.[1] Polyethylene thickness is crucial and some authors recommended minimum thickness of 7mm.[2]

REFERENCES:

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