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Hindfoot Arthrodesis as a Limb-Saving Approach for Chronic Ankle Osteomyelitis and Degeneration

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INTRODUCTION

Chronic osteomyelitis of the foot and ankle can result in bone destruction, joint instability, and secondary osteoarthritis due to persistent inflammation and mechanical deterioration. Treatment aims to eliminate infection, alleviate pain, and restore functional mobility.

REPORT:

A 68-year-old male developed chronic osteomyelitis secondary to osteoarthritis after screw fixation of a medial malleolus fracture. His recovery was complicated by delayed wound healing and recurrent serous discharge. A year later, the implant was removed; however, five months post-removal, he experienced worsening pain, swelling, and persistent discharge. *Pseudomonas aeruginosa* was identified, and despite a three-month course of levofloxacin, his symptoms continued to deteriorate. MRI revealed osteomyelitic changes in the medial malleolus, distal tibia, and talar dome, along with severe osteoarthritis. He underwent wound debridement with Collatamp insertion. Intraoperative tissue cultures showed no bacterial growth, and histopathological examination confirmed chronic osteomyelitis.

Four months later, he underwent right hindfoot fusion and Achilles tendon lengthening. Preoperative blood parameters indicated WBC count of 7.8 and CRP level of 0.15. Intraoperatively, severe arthritis, talar destruction, and hindfoot valgus deformity were observed. Cultures yielded no bacterial growth. At five months post-surgery, the patient is recovering well and has progressed to partial weight-bearing ambulation.

This case underscores the necessity of a comprehensive treatment approach, integrating long-term antibiotic therapy, aggressive surgical debridement, and ultimately, hindfoot arthrodesis for definitive management. Chronic osteomyelitis is rarely resolved with pharmacological treatment alone. While the loss of ankle motion is an expected consequence, the procedure effectively alleviates pain, restores stability, and enables functional mobility with appropriate footwear.

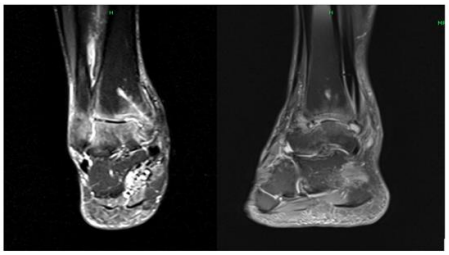

Figure 1: Preoperative MRI

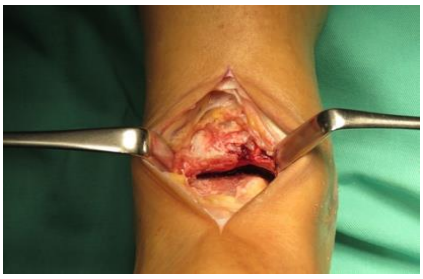

Figure 2 : Intra-operative image of the right ankle

CONCLUSION:

Chronic osteomyelitis with post-traumatic osteoarthritis presents a significant challenge, requiring a multidisciplinary approach that includes pharmacological therapy, surgical debridement, and arthrodesis for optimal management.

REFERENCES:

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