

Interpositional Arthroplasty of the Metatarsophalangeal Joint Utilizing Piscine Acellular Dermal Matrix for Diabetic Limb Salvage- A Case Report

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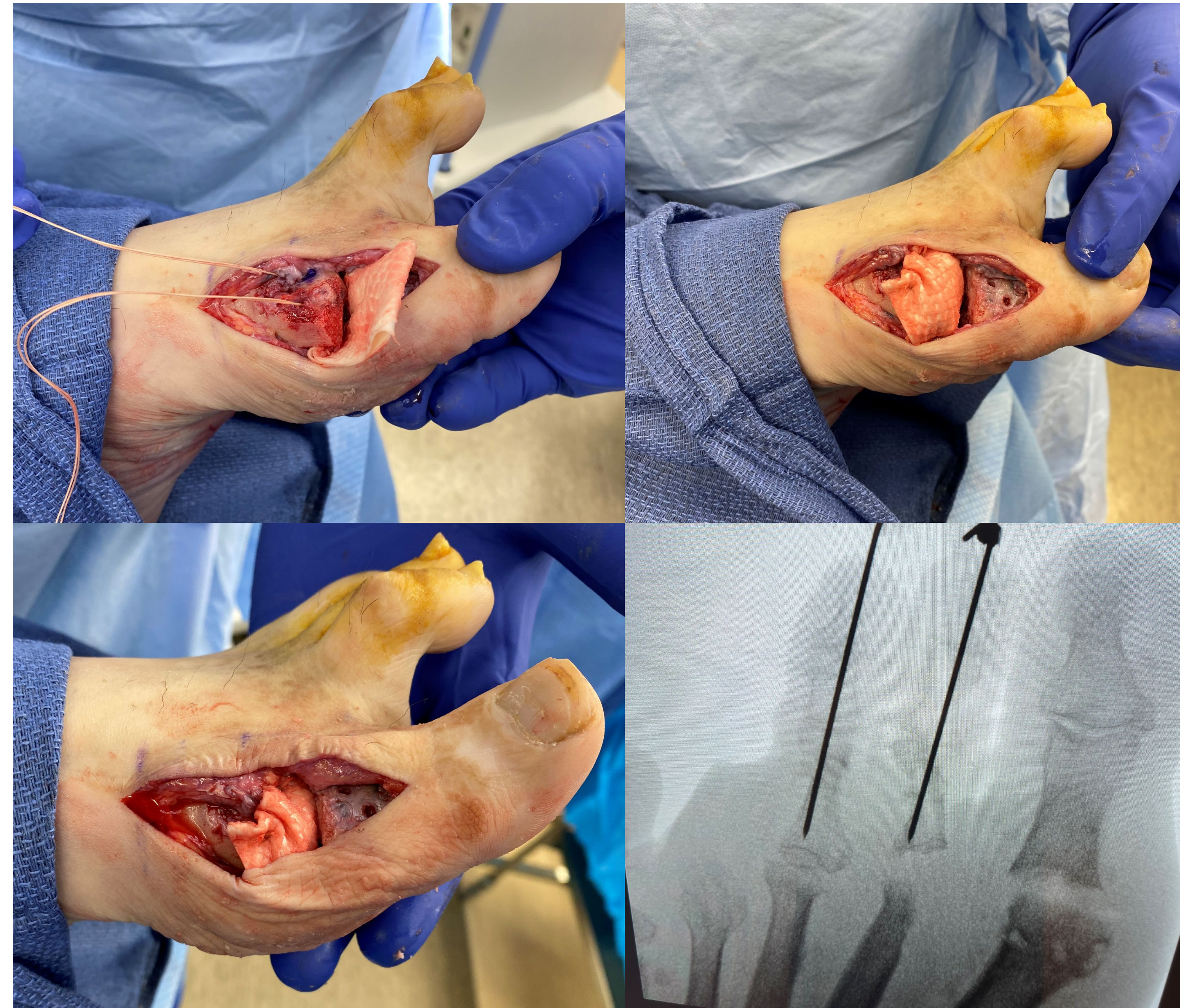
Introduction

Diabetic foot complications often lead to limb-threatening conditions, necessitating innovative approaches for successful limb salvage. This case report presents a unique application of interpositional arthroplasty using piscine acellular dermal matrix (ADM) in a patient with a diabetic foot ulceration and metatarsophalangeal joint (MTPJ) dislocation/destruction. The objective of this case report was to evaluate the feasibility and efficacy of piscine ADM as an interpositional xenograft material for limb salvage in diabetic patients with severe joint involvement.

Methods

A 59-year-old female with longstanding diabetes mellitus and a chronic non-healing foot ulcer was evaluated for potential limb reconstruction due to severe MTPJ dislocation and ulceration. Traditional treatment options had been exhausted, and the patient's functional status was severely compromised. In this case, we illustrate the usage of piscine ADM as an interpositional graft to restore joint integrity and promote tissue regeneration.

The surgical procedure involved staged debridement of necrotic tissue, joint resection, and anti-biotic spacer followed by the placement of piscine ADM as an interpositional graft within the MTPJ. The patient was closely monitored during the postoperative period for wound healing, pain management, and functional outcomes.



Results

Significant improvements were observed postoperatively, with successful wound healing and resolution of infection. The patient reported reduced pain and correction of deformity. The limb salvage procedure using piscine ADM as an interpositional xenograft proved successful in this case, providing a functional and infection free outcome for the patient.

Discussion

Fish skin grafts have been utilized successfully in the treatment of chronic ulcerations in the diabetic patient population. This case report highlights the potential of piscine ADM as an alternative treatment modality for limb salvage in diabetic patients with severe MTPJ destruction. The use of piscine ADM as an interpositional graft demonstrates its capacity to restore joint stability, promote tissue regeneration, and facilitate successful limb preservation. Further studies are warranted to evaluate the long-term outcomes and assess the viability of piscine ADM as a xenograft material in diabetic limb salvage procedures.

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