

Extreme Obesity and Knee Replacement: Lessons From a Complex Revision Journey

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Abstract:

Background: Total knee replacement (TKR) in the setting of severe obesity carries significantly increased risks, including wound complications, infection, prosthetic failure, and perioperative morbidity. Careful patient selection and optimisation are essential to achieving safe surgical outcomes.

Case Summary: We present a case involving a female patient with a weight of 180 kg and height 160 cm (BMI ~70), who had advanced osteoarthritis in both knees. Despite counselling on the importance of weight reduction prior to arthroplasty, the patient underwent simultaneous bilateral TKR abroad. Two weeks post-operatively, she sustained a fall resulting in a periprosthetic fracture of the left knee, which was surgically fixed with plates. She later presented with a severe deep periprosthetic joint infection, requiring complete hardware removal, extensive debridement, and a prolonged nine-month course of infection management. Once infection markers normalised, she underwent a complex revision knee arthroplasty using a specialised revision implant.

Conclusion: This case highlights the significant challenges encountered when performing arthroplasty in the context of extreme obesity, including technical difficulty, soft-tissue vulnerability, and dramatically increased infection and revision risk. It underscores the importance of preoperative optimisation, careful patient counselling, and the complexity of managing infected periprosthetic fractures in high-risk surgical candidates.