

Clinical and Medical Case Reports

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Infection after fracture fixation

Background: Infection after Fracture Fixation (IAFF) can be a devastating complication leading to prolonged morbidity and loss of function for the patient. Although no single treatment algorithm exists for every patient who develops IAFF, we found that prompt diagnosis and adherence to standard treatment principles gives the best chance for a full recovery

Introduction: We identified 40 patients treated by a single surgeon who develops IAFF between 2009-2017. Patients' age, sex, mechanism of injury, classification and location of fracture, culture results, and a number of debridements (1, 2-5, >5) required were recorded. Whether the hardware had been removed, exchanged or retained was also noted. Outcomes were based upon fracture healing and if there was any evidence of ongoing infection at latest follow up.

Methods: Standard protocol included saucerization or segmental resection of any necrotic, infected bone. Placement of antibiotic beads or spacer when structural support was necessary was routinely done. Patients received six weeks of intravenous antibiotics followed by bone grafting or bone transport depending on the size of the remaining defect. In the presence of a chronic infection or gross purulence, the hardware was either removed or exchanged.

Results: There were 40 patients with IAFF, 38 involving the lower, and two involving the upper extremity. Five patients were lost to follow up. Of the remaining 35, 31 had healed their fractures at the time of latest follow up, and three patients required amputation of the involved extremity. Twenty-four patients required between 2-5 debridements, and eight required greater than five. Eleven patients had Gustilo-Anderson type IIIA, and seven had IIIB fractures. Muscle or fasciocutaneous flaps were performed in 7 patients, bone grafting was performed in 15 patients, 18 patients underwent skin grafting and two additional patients had extracellular matrix xenograft applied. Negative pressure wound treatment was used in 27 cases.

Conclusion: We found that thorough debridement of all necrotic, infected bone with use of antibiotic spacers and bone grafting when culture negative gave the best chances at a favorable outcome for this challenging patient population.

Biography

Russell D Weisz is a board certified orthopedic surgeon who began his medical training at the State University of New York Health Sciences Center at Brooklyn where he graduated Magna Cum Laude. He then completed his orthopedic surgical residency at the Hospital for Joint Diseases/ New York University and concluded his training with a one-year fellowship in orthopedic traumatology at Tampa General Hospital. Dr Weisz is the director of orthopedic trauma at Delray Medical Center, a level one trauma center in Palm Beach County Florida. He specializes in the treatment of complex fractures and the reconstruction of fractures that have not healed or have become infected. Dr Weisz is a clinical affiliate Assistant Professor at the Department of Surgery, Florida Atlantic University, Charles E Schmidt College of Medicine. Dr Weisz is involved in clinical research and is a principal investigator of the study "Assessing the efficacy of IV ibuprofen for treatment of pain in orthopedic trauma patients".

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