CR07 Breaking the Boundaries: A Case of Humerus Reconstruction using a Fibula Autograft

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KEYWORDS: Bone Transplantation; Fibula; Humeral Fracture

INTRODUCTION/OBJECTIVES: The treatment of fractures, refractures, and bone nonunions with avascular segments of osteoporotic bones still represents a problem in surgical practice. The major concerns are the biological potential and biomechanical instability of the bone. Therefore, new osteosynthetic techniques and implants are constantly being developed.
CASE PRESENTATION: A 71-year-old female patient was admitted to the ER with a comminuted osteoporotic fracture of the right humerus caused by a low-altitude fall. Initially, she underwent closed reduction and humerus antegrade intramedullary nailing. After seven weeks the patient suffered refracture and the implant had to be surgically removed due to irritation. Postoperatively, the patient was immobilized using an extremity cast splint. After nine weeks, a follow-up X-ray showed dislocated avascular bone fragments without radiological signs of bone healing, indicating the need for revision surgery. Therefore, it was decided to isolate the segment of the patient's right fibula and use it as a structural autograft for bone reconstruction. Open refracture reduction and extramedullary osteosynthesis were performed. To further promote bone healing, an autospongioplasty using the tissue of the right iliac crest was performed during the same procedure. The patient was discharged, and eight weeks later, radiological signs of bone healing were observed. The patient was pain-free, with a satisfactory outcome and function of the right arm.
CONCLUSION: The distal part of the fibula is not a key weight-bearing portion of the lower extremity, making it an ideal choice for treating humeral shaft fractures in older, less demanding patients, especially when adequate bone allograft is not available.

CR08 Cardiogenic Shock Necessitating Extracorporeal Membrane Oxygenation In a Previously Healthy Child

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KEYWORDS: COVID-19; Extracorporeal Membrane Oxygenation; Pediatric Multisystem Inflammatory Disease, COVID-19 Related; Shock, Cardiogenic

INTRODUCTION: Multisystem inflammatory syndrome in children (MIS-C) is a hyperinflammatory complication of SARS-Cov2 infection. While early reports insinuated less severe infections in pediatric populations, MIS-C is becoming a more recognized clinical manifestation. Cardiac involvement is common, although severe cases requiring extracorporeal membrane oxygenation (ECMO) remain infrequent.
CASE PRESENTATION: A previously healthy 8-year-old male presenting with dyspnea, cyanosis, bradycardia, profuse emesis, epigastric pain, and fever (39.7°C) was admitted to the pediatric ICU for suspected cardiogenic shock. Due to rapid deterioration, intubation and resuscitation were performed, with the return of spontaneous circulation quickly achieved. Despite corrective measures and administration of dopamine and norepinephrine, the patient remained hypotensive and anuric in deep lactic acidosis. Echocardiogram confirmed suspected fulminant myocarditis with valvulitis, regurgitation on AV valves (TR III, MR III), and significantly reduced systolic function of the left ventricular myocardium (EF 20%). To ensure hemodynamic stability, the decision was made to cannulate the patient for venoarterial-ECMO. RT-PCR for SARS-Cov2 was negative; however, previous infection was subsequently confirmed through IGg seropositivity. According to WHO guidelines, the patient fulfilled the criteria to confirm the development of MIS-C. Therapy was carried out with intravenous immunoglobulins, methylprednisolone, and supportive intensive care measures. Due to the gradual recovery of systolic function, he was weaned from ECMO on day eight and extubated two days later.
CONCLUSION: MIS-C remains a rare but serious complication of SARS-Cov2 infections that may have initially been mild or asymptomatic in pediatric patients. Early recognition and appropriate supportive care play a critical role in reducing the long-term externalities of MIS-C.