Mg OSTEOCRETE™

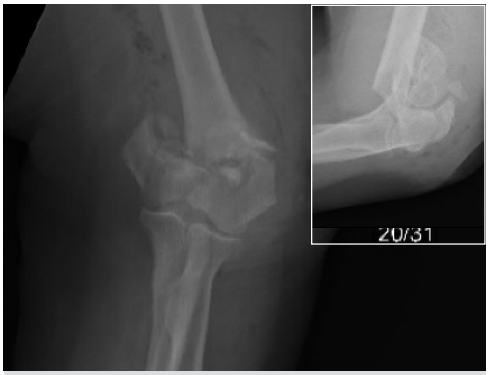
MAGNESIUM-BASED BONE SUBSTITUTE

CASE STUDY

Distal Humerus Fracture with Mg OSTEOCRETE Bone Substitute

CLINICAL SCENARIO/ PRE-OPERATIVE PLANNING

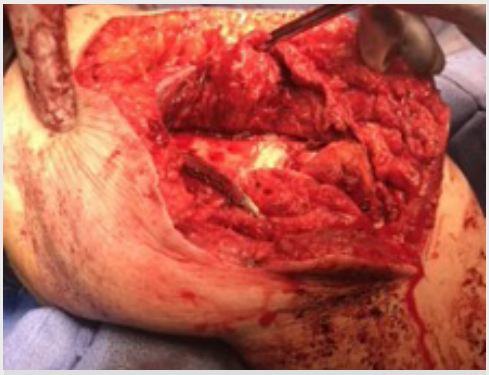
Patient is a 75 y/o female that fell from standing directly onto her left elbow and presented with a Grade I open left distal humerus fracture. Initial radiographs revealed a comminuted supracondylar, with intercondylar extension, fracture of the distal humerus. Due to medical co-morbidities, surgical clearance was delayed for 48 hours. Due to the complexity of the injury, the initial surgery was limited to I&D and subsequently referred to the trauma attending for definitive fixation.



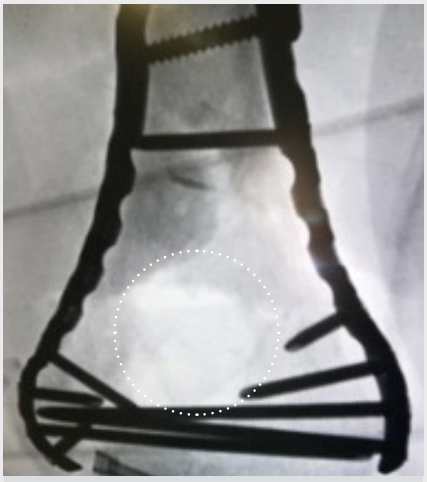
Pre-Op: AP and Lateral Radiographs of Humeral Fracture

TREATMENT

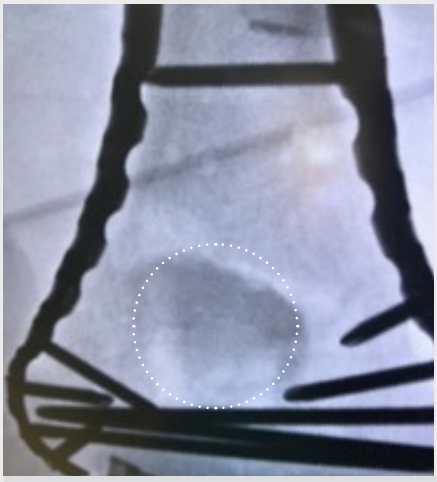
Posterior approach to the distal humerus was performed, the fracture was reduced and internal fixation applied to the medial and lateral columns utilizing 180-degree plating. Due to the comminuted nature of the open fracture and the debridement of loose bone fragments, a void was present centrally. This void was felt to be best managed with a resorbable bone cement and thus 5cc of Mg OSTEOCRETE Bone Void Filler was prepared and packed into the defect. Final fixation showed anatomic restoration of the distal humerus.



Intraoperative Clinical Photo with Mg OSTEOCRETE in the Osseous Defect



Intraoperative Fluoroscopic Image Demonstrating Osseous Void

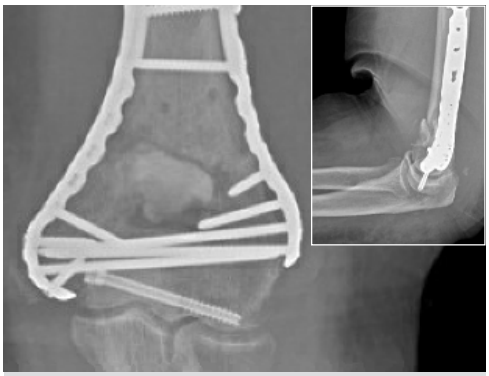


Intraoperative Fluoroscopic Image After Mg OSTEOCRETE Implantation

RESULTS

6-Week Follow Up:

At the 6-week follow up, the incision had healed without signs of infection. The Mg OSTEOCRETE was still visible and hardware was intact. There was no loss of alignment or failure of fixation.



6-Week AP and Lateral Radiographs

3-Month Follow Up:

At the 3-month follow up, the patient's pain was 1/10. Elbow range of motion extended from 30-110 degrees and she had full supination/pronation. Radiographs show continued fracture consolidation and incorporation of the Mg OSTEOCRETE.

6-Week AP and Lateral Radiographs

5-Month Follow Up:

At the 5-month follow up, the patient's exam remained unchanged. Radiographs show further incorporation of the Mg OSTEOCRETE (an average of 60% resorption) and fracture healing, especially along the anterior cortex.

5-Month AP and Lateral Radiographs

1-Year Follow Up:

At the 1-year follow up, the patient had no pain and gained additional motion. Her elbow range of motion now extended from 10 to 130 degrees and she maintained full pronation/supination. Radiographs show complete incorporate of the Mg OSTEOCRETE.

1-Year AP and Lateral Radiographs

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