



# Bicondylar Distal Humerus Fracture Treated With Total Elbow Arthroplasty in a 69-year-old woman: A Case Report and Literature Review

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## AIM

We present a case of distal humerus bicondylar fracture in a 69-year-old woman with excellent outcomes, supporting the choice of total elbow arthroplasty in elbow fractures in specific patient populations, should the conservative management fail.

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## INTRODUCTION

Bicondylar distal humerus fractures are a rare clinical entity with controversial treatment. Although ORIF yields better results than conservative approach, the comminuted nature of these fractures and the complex anatomical region often make ORIF a challenging option. Total elbow arthroplasty is a well-established surgical technique for end-stage elbow rheumatoid arthritis, while recently its indications have expanded to elbow osteoarthritis, post-traumatic arthritis and acute fractures considering its improving outcomes and lower revision rates. High long-term complication rates however still persist in the literature and good surgical technique is required when the procedure is performed.

## METHODS AND MATERIALS

A 69-year-old woman who had been treated conservatively with cast-splitting for two months because of a distal humerus bicondylar fracture, presented at our department 8 months after the accident with persisting symptoms of pain, crepitus and instability. Radiologically, a non-union and condylar absorption appeared on the x-ray, indicating failure of the conservative management. A semi-constrained total elbow arthroplasty was performed utilizing a triceps sparing surgical approach to avoid triceps reflection and consequent weakness.

## RESULTS

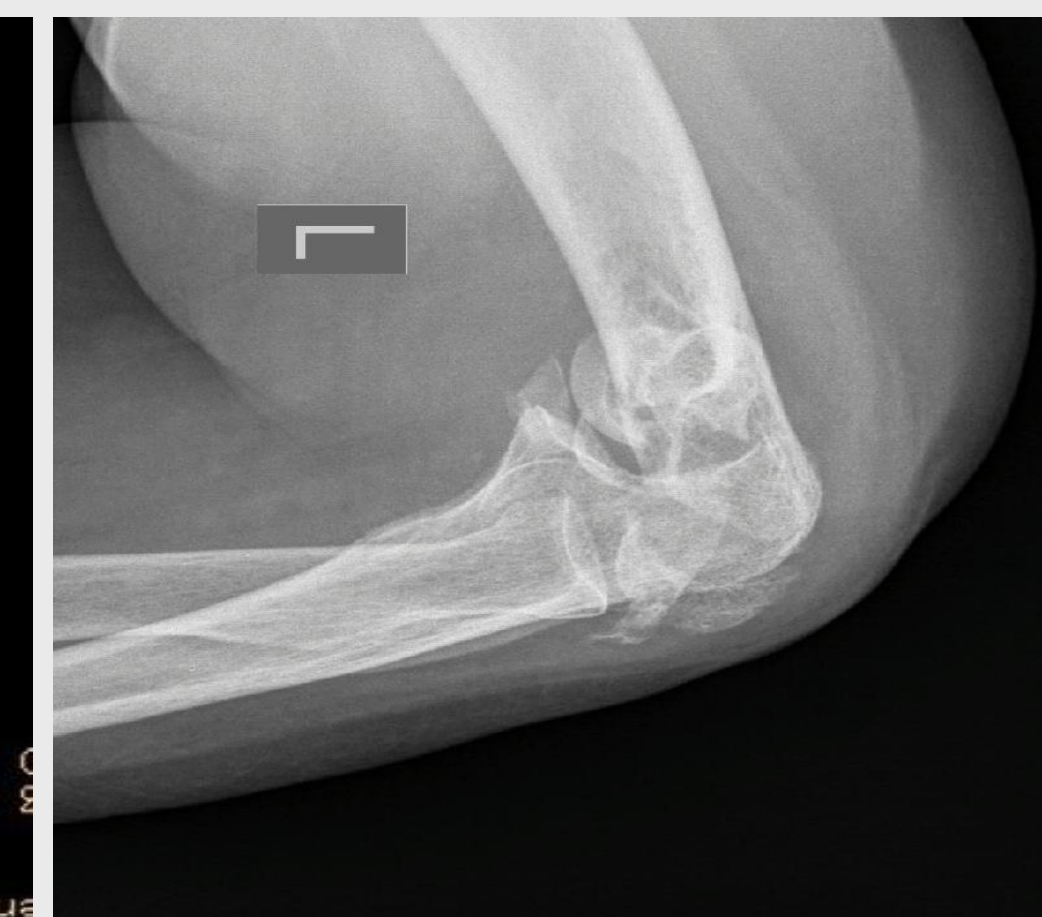
At six month's follow-up after the procedure, the patient presented with excellent passive and active ROM. Radiologically the prosthesis appeared integrated and stable.

## CONCLUSIONS

With the utilization of improved surgical technique and prostheses, total elbow arthroplasty might become a reliable treatment option in distal humerus fracture in the elderly and osteoporotic patients with high non-union rates and difficult fracture patterns.



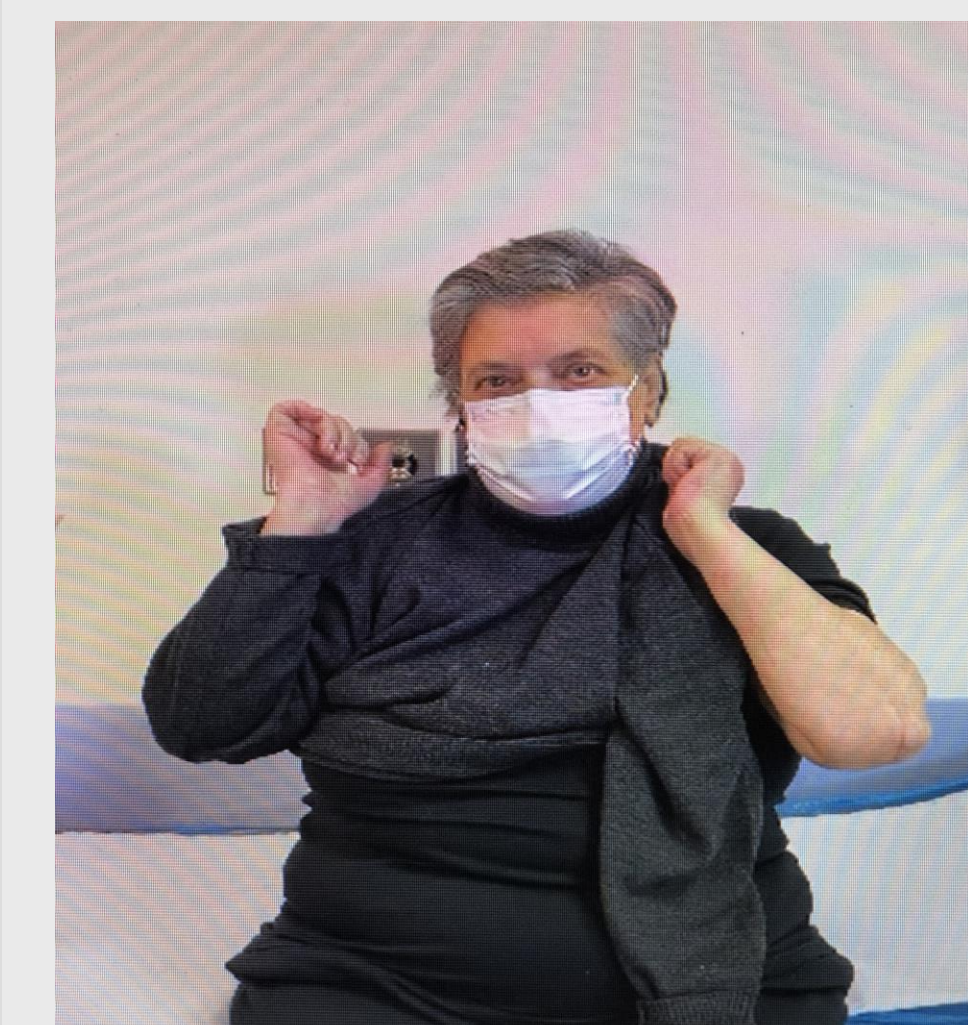
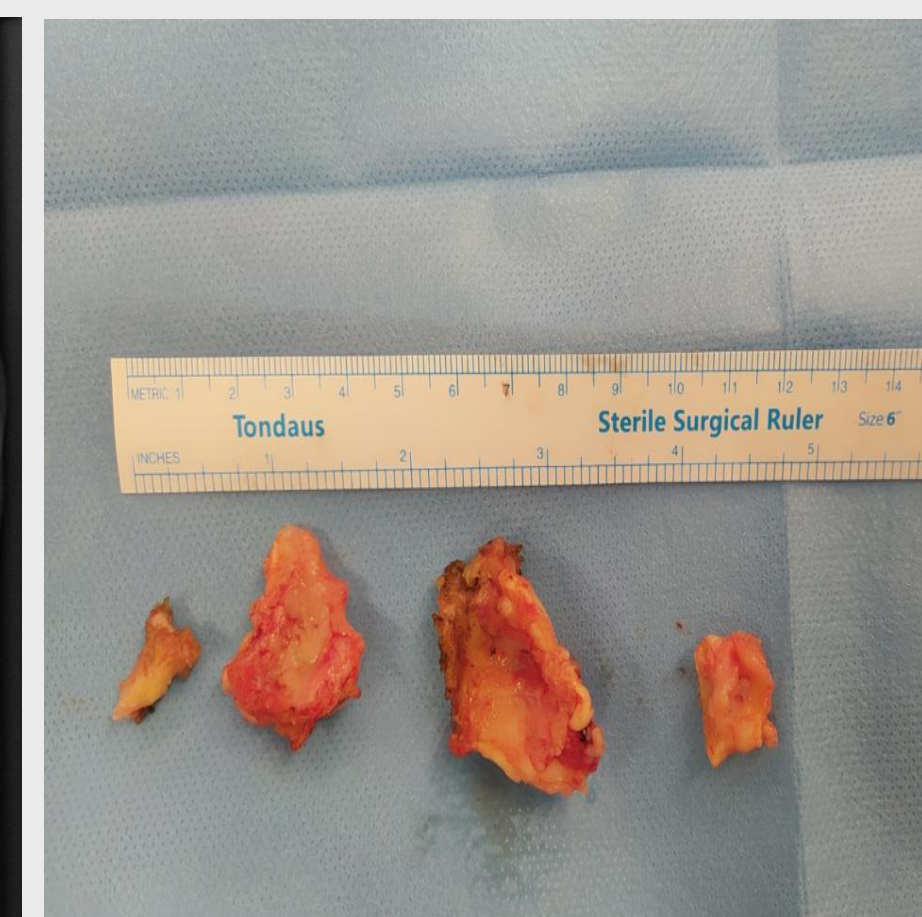
PREOPERATIVE CT



PREOPERATIVE RADIOGRAPHS



POST-OPERATIVE RADIOGRAPHS



6 MONTH'S FOLLOW-UP EXAMINATION

## REFERENCES

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5420822/>
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- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6132587/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4716570/>