

Shoulder Hemiarthroplasty: An Operative Option For Comminuted Fracture Of Proximal Humerus

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INTRODUCTION:

Proximal humeral fractures commonly occurred in an elderly patient and is widely classified according to Neer classification. Even though it is uncommon, a 4-part proximal humeral fracture presents a challenge to the managing surgeon. Surgical options include open reduction and internal fixation or a shoulder arthroplasty and decision is made based on a combination of factors.

MATERIALS & METHODS:

Our patient is a 67 years old gentleman who was involved in a motor-vehicle accident and sustained a closed comminuted fracture of the right proximal humerus consistent with Neer type VI 4-part fracture-dislocation. He has an underlying diabetes mellitus (controlled by medications) and never has any shoulder pain.

RESULTS:

We proceeded with a right shoulder hemiarthroplasty employing the delto-pectoral approach and a modular hemiarthroplasty implant from Zimmer (Zimmer Inc., USA). Postoperatively patient's right shoulder function progressively improved and at one year postop, he was asymptomatic with a satisfactory shoulder function.

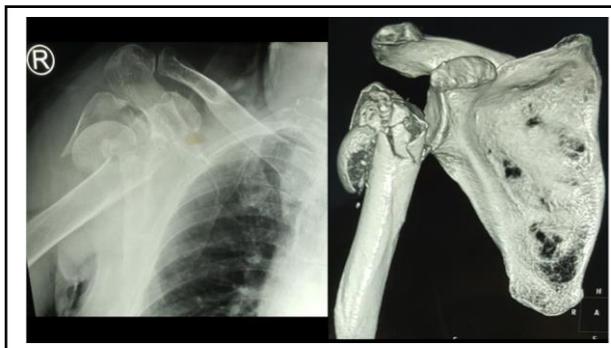


Figure 1 – Preoperative right shoulder x-ray and CT 3D reconstruction image

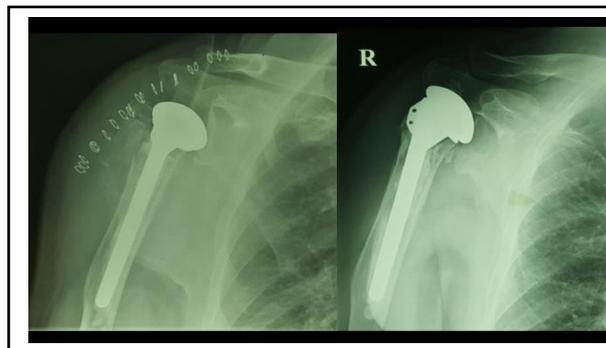


Figure 2 – Postoperative x-rays (left – immediate, right – one year)

DISCUSSIONS:

Several factors need to be considered in managing a Neer type VI 4-part fracture dislocation. Firstly is the risk of osteonecrosis which is estimated to be around 80 – 100% and secondly the possible complications of internal fixation such as non-union and screw cut out in the elderly. Due to that, a shoulder arthroplasty is advocated and options include a hemiarthroplasty or reverse total shoulder arthroplasty (RTSA). Factors that favor RTSA include glenohumeral arthritis and rotator cuff deficiency however, our patient was quite well thus a hemiarthroplasty is performed.

CONCLUSION:

Shoulder hemiarthroplasty is a sensible option in managing a comminuted proximal humerus fracture and is able to achieve a satisfactory outcome as demonstrated by our case.

REFERENCES:

1. Roux et al, Epidemiology of Proximal Humerus Fractures Managed in a Trauma Center, 2012, Orthopaedics & Traumatology: Surgery & Research, 98: 715-719