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Management of Proximal Humerus Fracture with Incidental Concomitant Infection: An Unwanted Surprise

Amar Sidin, Jonas Fernandez
Orthopedic Department, Hospital Putrajaya

INTRODUCTION:

Osteosynthesis of comminuted proximal humerus fracture is by itself challenging. Add on the late presentation and surprising intra-operative findings, the management could be daunting. We report on the challenges of managing a patient with concomitant proximal humerus fracture and infection.

REPORT:

Male, 30s, symptoms of pain and loss of range of motion (ROM) of left shoulder after trauma. Presented at 1 month post-trauma only due to persistent pain. No constitutional symptoms. Examination: Clinically pink, underweight BMI. Left shoulder tender with reduced ROM. Imaging: 3-part proximal humerus fracture with retroversion of the humeral neck of 65 degrees. Blood investigations unremarkable. Planned for proximal humerus osteoclasis, derotation and plating. Intra-operatively, noted pus discharge along the long head of biceps (LHB), tracking from the joint proximally. LHB tendon inflamed with slough. Glenohumeral joint exposed via subscapularis detachment and washout done. Diseased portion of LHB debrided and proximal stump subpectoral soft tissue tenodesis done. Postoperative inflammatory markers remained unremarkable. Cultures were negative. Completed long term course of antibiotics. At 3 months follow up, fracture united with improvement in ROM and no "popeye' deformity.

DISCUSSION:

The normal humeral neck retroversion is 25-35 degrees, however, overhead-throwing athletes demonstrate additional 10 degrees of retroversion. Infection of the glenohumeral joint can present with diagnostic challenges due to its often atypical presentation(1), even more so an infection of the LHB. In the setting of a concomitant fracture, such conditions may be easily overlooked.

LHB tenodesis done simultaneously during fixation for proximal humerus plate fixation is shown to improve shoulder pain and function(2). Soft tissue LHB tenodesis technique improves subjective and physical scores and is comparable to other techniques(3).

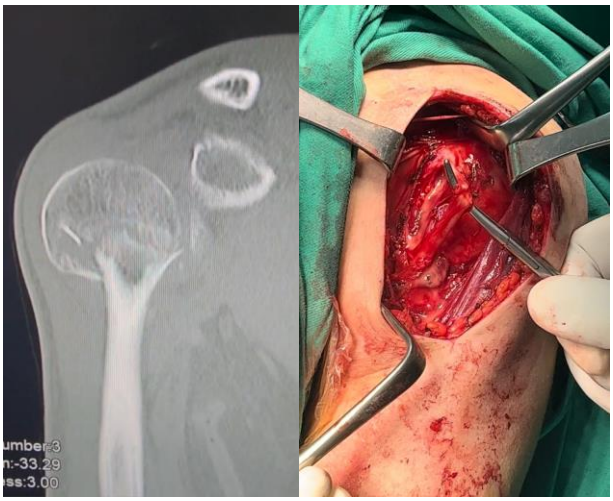

Figure 1 (left): CT: proximal humerus fracture with excessive retroversion
Figure 2 (right): Pus tracking from joint proximally along LHB tendon.

CONCLUSION:

LHB infection is extremely rare. When there's a concomitant fracture of proximal humerus, infection has to be addressed first. Soft tissue tenodesis provides good outcome after LHB tenotomy. To our knowledge, such a case has never been reported in literature.

REFERENCES:

1. Senthil et al., J OrthopCaseRep,2016
2. Greve et al.,Outcome following LHB tenodesis,2019
3. Imhoff et al.,JISAKOS,2019