Locking Plate and Cable Ties in Managing Peri-implant Fractures

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INTRODUCTION:

Subtrochanteric fractures can be challenging to manage as this area is subjected to greatest compressive and tensile stresses with strong deforming muscular forces.(1) Plating with cable ties are commonly used in treating periprosthetic fractures to preserve the implant. We applied similar concept, in a trauma setting, on a malunion femur with previous intramedullary nail in-situ in order to reduce operative time and further surgical complications.

REPORT:

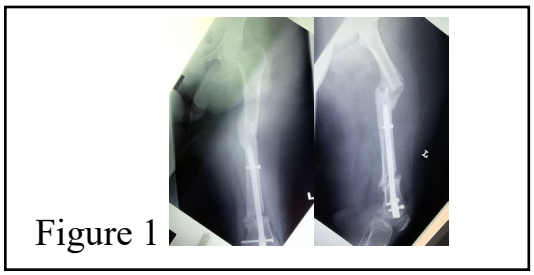
A 35-year-old housewife slipped and fell at home with closed left subtrochanteric fracture. She fractured the ipsilateral femur segmentally 9 years ago, whereby condylar plating was done. It was complicated with fracture related infection requiring removal of the plate and multiple surgical debridements accompanied by antibiotics. A year later, retrograde nail was inserted for the non-union distal femur; proximally fracture was malunited (Figure 1).

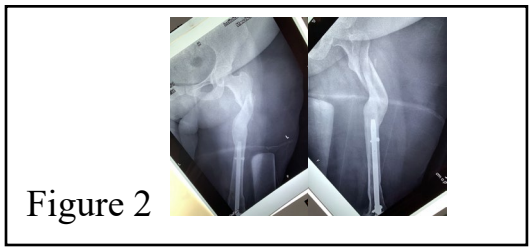
Plain radiographs (Figure 2) shown fracture over the previously malunited subtrochanteric fracture with retrograde femoral nail distally. Decision of fixing the fracture with proximal femoral locking plate supplemented with cable ties (Figure 3), was chosen as there was no need to remove the existing nail, which significantly reduced the operative time and wound size. At postoperative 3 months, she was allowed full weight bearing and able to do her house chores as usual.

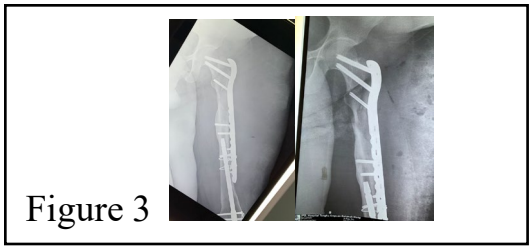
Figure 1: Radiograph showing malunion (procurvatum of 30 degrees) proximal left femur with distal 3rd femur fracture non-union fixed with retrograde nail in both AP & lateral views in 2013

Figure 2: Radiograph showing a new fracture over the malunited left subtrochanteric femur

Figure 3: Radiograph showing left subtrochanteric femur fracture fixed with proximal femoral locking plate with cable ties







CONCLUSION:

Malunited proximal femur in such angulations provides challenges for a conventional compression plate to flush onto the bone via cortical screws.(2) Hence, an angle stable plate fixation such as proximal femoral locking plate was used to achieve stable fixation point. In addition to that, the fixation was enhanced with cable ties, to retain the existing implant without the need for removal.

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