

Alternative Treatment in Paediatric Subtrochanteric Femur Fracture with Proximal Humeral Plate

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INTRODUCTION:

Fracture in the subtrochanteric region of femur in paediatric age group is rare. These fractures are difficult to treat as literature on definitive treatment is limited.¹ We had a case of subtrochanteric femur fracture in paediatric at our center. Here, we present the fixation method of subtrochanteric femur fracture in paediatric with adult's proximal humeral plate (PHP – Kanghui, China).

REPORT:

A 9-year-old girl was admitted to our hospital after motor vehicle accident where she sustained closed subtrochanteric fracture left femur and Brown-Séquard syndrome. Her neurological was recovered partially after treatment with IV Dexamethasone. Patient was subjected for open reduction and internal fixation using PHP after 3 weeks, this was due to episode of bradycardia secondary to high spinal cord injury and hospital acquired pneumonia. Patient was positioned lateral, open reduction was performed. 3.5mm PHP was inserted with calcar screws following the anteversion of the femoral neck and screws length shorter than the femoral head physis. Screws should be avoided at greater trochanter whenever possible.



Figure 1: Subtrochanteric left femur fracture



Figure 2: Pelvis x-ray post operation PHP

DISCUSSION:

Managing subtrochanteric fracture in paediatric age group is challenging. Conservative treatment requires longer hospital stay and prolonged immobilization which may result in malunion and non-union. Options of surgical treatment includes flexible intramedullary nailing, external fixators, rigid intramedullary nail and plate. Plating is the best option provide rotational stability and restore length. However, paediatric hip plate often too short for subtrochanteric fracture and hence PHP is a better option for this case which allow more screws fixation at the femoral shaft.

CONCLUSION:

Adult's PHP provides a better alternative for the fixation of paediatric subtrochanteric femur fracture to reduce risks of malrotation, malunion, non-union and physeal arrest.

REFERENCES:

1. Zhang Y, Xue Y, Zhao M, Chen X, Gao Q. Titanium elastic nails vs locking plate in pediatric subtrochanteric femur fractures: A systematic review and meta-analysis. *Front Pediatr.* 2023 Mar 3;11:1114265. doi: 10.3389/fped.2023.1114265. PMID: 36937961; PMCID: PMC10020654.