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Successful Management Of A Pediatric Proximal Femur Fracture Using An Adult PHILOS Humeral Plate: A Case Report

Wynnie Voon Hui Yin[1], Muhamad Nurasnol Bin Khamis [1]

[1]Department of Orthopaedic Surgery, General Hospital Tawau, Sabah, Malaysia

INTRODUCTION:

Hip fractures are rare in children, making up only about 1% of all bone injuries. Of these, peri-trochanteric fractures are the least common, representing just 4-17% of paediatric femur fractures[1].

CASE REPORT:

A 7-year-old boy with stage 1 COVID-19 fell from a height of 3 stories on day 6 of his illness and was unable to walk due to severe pain in his left lower limb. Radiographs showed a Delbet type 4 left proximal femur fracture (Figure 1), a comminuted left calcaneum fracture, and a left inferior pubic rami fracture. He was admitted for surgical fixation to avoid unsatisfactory alignment and limb length discrepancy. The PHILOS (Proximal Humeral Internal Locking System) plate was chosen for its precontoured design that fits the anatomy of the paediatric proximal femur and its broad proximal end, which ensures a stronger hold on the femur (Figure 2)[2]. The plate's proximal holes are engineered to accept locking screws at a 130-degree angle, consistent with the femoral neck/shaft angle[2]. Additionally, the variety of locking screw options in the proximal plate facilitates better fixation of the proximal fragment and easier screw insertion into the femoral neck, resulting in enhanced angular stability compared to a compression plate[2]. Post-operatively, the patient was regularly followed up and implant removal was performed when radiographs showed fracture union (Figure 3). 2 years post trauma, there is no limb length discrepancy, and the left hip exhibits a full range of motion.

Figure 1: Radiograph of left femur showing a Delbet type 4 left proximal femur fracture.

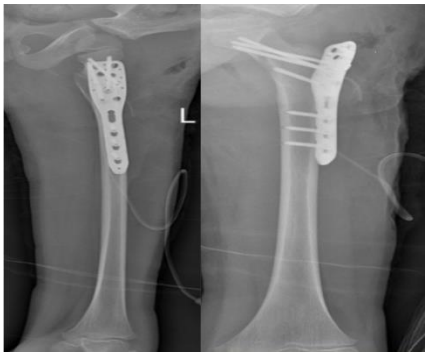

Figure 2: Radiograph of the left femur showing fracture fixed with PHILOS plate.

Figure 3: : Radiograph of the pelvic showing united fracture after removal of implant at 2 years post-operatively.

CONCLUSIONS:

Paediatric peri-trochanteric femur fractures are rare and challenging to manage. We report a case where internal fixation with an adult PHILOS plate led to a good functional outcome. In summary, the PHILOS plate is a reliable choice for internal fixation of paediatric peri-trochanteric femur fractures.

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