

Femur Fracture in a Non-Ambulatory and Non-Verbal Cerebral Palsy Child with Spastic Quadriplegia

¹Yeo KS; ²Hau WWH

¹Department of Orthopaedic Surgery, Hospital Melaka, Melaka

INTRODUCTION:

A cerebral palsy (CP) child with femur fracture is particularly challenging as medical comorbid, spasticity, osteopenia and family's expectation must be taken in consideration.

REPORT:

A 10 years old CP child with spastic quadriplegia presented with a trivial fracture of right proximal femur while abducting both hips during diaper change by his sole caretaker. Gross Motor Function Classification System (GMFCS) was level 5, and he was unable to verbalise or ambulate. His weight was 8kg. Examinations revealed right thigh swollen and tender with severe contracture of the both lower limbs adductors. X-ray showed proximal femur fracture with hip dysplasia. The caretaker wished for the child to at least sit on a stroller and able to abduct both hips for perineal hygiene. We decided for femur plating and adductor muscles release.

Pathological femur fracture in non-ambulatory CP adolescents are rare but well described.¹⁻⁴ Spastic muscle imbalance and lack of weight bearing lead to the development of progressive structural changes around the hip joint, including retained femoral anteversion, posterolateral acetabular dysplasia, and flexion-adduction contractures.¹

The preferred treatment of femur fractures in non-ambulatory CP children is conservative, though casting has a high malunion rate and pressure sores.² However, operative treatment allows the child to be positioned in a sitting posture in line with caretaker's expectation. We advocate soft tissue release of the adductor muscles to prevent hip subluxation/dislocation which will increase the hip's range of motion, easier seating and improved perineal hygiene.³

CONCLUSION:

Adductor muscles release should be complemented with femur plating for this child to allow better hip abductions in order to prevent recurrence of femur fracture.

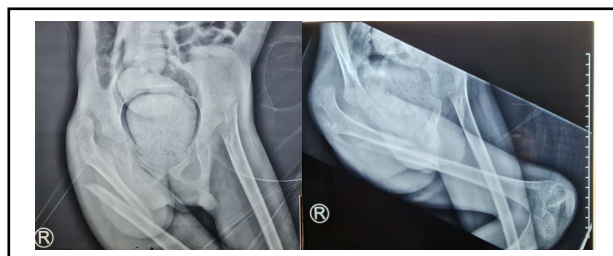


Figure 1:
Preoperative Xray



Figure 2:
Post DCP Femur
Xray and Adductor
Muscles Release

REFERENCES:

1. Shore BJ, et al. Adductor Surgery to Prevent Hip Displacement in Children with Cerebral Palsy: The Predictive Role of the Gross Motor Function Classification System. *Journal of Bone and Joint Surgery*. 2012;94(4):326-334.
2. Leet AI, et al. Treatment of femur fractures in children with cerebral palsy. *J Child Orthop*. 2009; 3:253-58
3. Susan Stott N, et al. Effects of surgical adductor releases for hip subluxation in cerebral palsy: an AACPD evidence report. *Dev Med Child Neurol*. 2004;46(09).
4. Presedo A, Dabney KW, Miller F. Fractures in Patients With Cerebral Palsy. *J Pediatr Orthop*. 2007;27(2):7.