

CLINICAL AND RADIOGRAPHIC OUTCOMES OF SURGICALLY TREATED GARTLAND III SUPRACONDYLAR HUMERUS FRACTURE IN PEDIATRICS

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INTRODUCTION:

Closed reduction and percutaneous pinning is the most acceptable surgical treatment of a displaced Gartland III supracondylar humerus fractures in paediatrics where consistent satisfactory results have been proven over many years with this treatment modality. However not many studies were done to determine the factors influencing the outcome of the treatment especially in Malaysia.

METHODS:

This is a cross sectional study, reviewing 109 patients who had supracondylar humerus fractures treated surgically between January 2015-January 2020 in Hospital Kuala Lumpur. The simple logistic regression model was used to estimate the OR for age, gender, race, obesity, timing of surgery, type of reduction, surgeon experience, and type of fixation.

RESULTS:

A total of 89% (n=97) of patients were in excellent & good categories in terms of cosmetic clinical outcomes while 82% (n=89) of patients were in excellent & good categories in terms of functional clinical outcomes. Radiologically, 85 (78%) of cases also had no loss of reduction after 6 months of follow up, while 19 (17.4%) had mild loss of reduction and 5(4.6%) had major loss of reduction. The highest number of complications was infection with the total of 11 cases (10%), followed by nerve injury 7 (6.4%), deformity 6 (5.5%) and revision surgery 2 (1.8%).

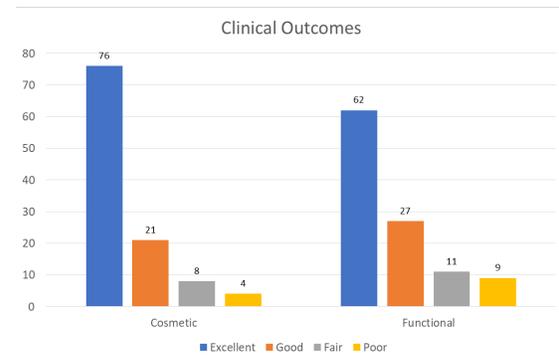


Figure 1 : clinical outcomes (Flynn's criteria) at 6 months of follow up

DISCUSSIONS:

In this study also, obese child had been found of having 8 times more risk of having poor cosmetic clinical outcome, while open reduction was associated 13 times more risk for poor cosmetic clinical outcome (95% CI 2.126 to 88.834; OR: 13.743). Similarly, in range of motion outcome, open reduction group were associated with poorer outcome. The timing of surgery (early vs delay) is not found to be a significant factor associated with rate of open reduction (p=0.772).

CONCLUSION:

In summary, open reduction surgery and obesity are associated with poor functional and radiological outcome of surgically treated Gartland III supracondylar humerus fractures in pediatrics. Obesity is also shown to be a significant predictor for the need of an open reduction surgery.

REFERENCES:

1.Flynn, JC, JG Matthews, and RL Benoit. 1974. "Blind pinning of displaced supracondylar fractures of the humerus in children. Sixteen years' experience with long-term follow-up." J Bone Joint Surg Am 56: 263-272.