DISPLACED ACETABULAR FRACTURE TREATED WITH VECTOR TRACTIONS: A CLINICAL STUDY

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INTRODUCTION:

Displaced acetabular fracture is difficult to manage and require operative surgery. When the surgical procedure is delayed, traction is beneficial for temporary fracture stabilisation, immobilisation and pain control. Our study aims to assess the effect of vector tractions toward displaced acetabular fracture while preparing the patient for surgery.

METHODS:

This is a prospective study conducted at Hospital Tuanku Jaafar, Seremban between June 2016 until December 2017. A total of 21 patients were included in the study. Patients were put on supracondylar and lateral traction in which serial radiograph assessed reduction effects. Displaced acetabular fracture was defined radiologically as displacement of both ileopectinial and ileoischial line of more than 2cm.

RESULTS & DISCUSSIONS:

Male gender predominant (82,1%) and majority caused by a road traffic accident (75.0%). Majority are a bicolumnar type (46.4%) followed by T-type acetabular fracture (25.0%). Fracture reduction achieved in 18 cases. Traction weight ranges from 5% to 33.33% (median, 20%) of body weight required for fracture reduction. Only 4 (19%) require 10% or less body weight traction for reduction while the rest require higher traction weight. 10 patients (47.6%) require between 16% to 24% body weight traction for fracture reduction. Median of 200gm/kg traction weight (range, 50gm to 333gm) are required for fracture reduction (p=0.740). All (57.14%) patients applied with traction within 7 days of trauma achieved fracture reduction. Traction applied within 7 days of trauma significantly affect preoperative fracture reduction (p=0.025).

Figure 1: Vector Traction Application

Figure 2: Initial fracture displacement

Figure 3: Final reduction with vector traction

CONCLUSION:

Vector traction of around 20% body weight (200mg/kg) reduce displaced acetabular fracture preoperatively. Delay in traction application more than 7 days significantly affect preoperative fracture reduction.

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