

COMPARISON OF OUTCOME OF OPERATIVE VS. NON-OPERATIVE TREATMENT OF ACETABULAR FRACTURES IN THE ELDERLY AND SEVERELY COMORBID PATIENT

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INTRODUCTION

Fractures involving the acetabulum account for 10% of pelvic trauma fractures (2). The standard of care for simple and complex acetabular fractures with hip joint incongruity is open reduction and fixation (1). However, acetabular fractures in the elderly and severely comorbid patient can be associated with high morbidity and mortality. Elderly patients or younger patients with severe comorbidities may benefit from conservative care given the high risk of post operative complications after extensive pelvic surgery in the context of a debilitated baseline health status. Patients managed initially in a conservative manner can later receive an elective total hip replacement if joint incongruity results in post traumatic arthritis. This retrospective study assesses outcomes of operative (ORIF) versus non-operative care of acetabular fractures in the elderly or severely comorbid patient to define criteria for acute operative intervention versus non-operative treatment of acetabular fractures in this patient population.

METHODS

We performed a retrospective review of our trauma registry for patients who sustained an acetabular fracture. Between April 2005 and December 2007 we identified 121 consecutive acetabular fractures. Twenty-nine patients met inclusion criteria. Inclusion criteria included age >75 with or without comorbidities, or age >65 if complicated by two or more medical comorbidities (diabetes, cardiac insufficiency, COPD, end stage renal disease or dialysis, end stage malignancy, end stage liver disease, paraplegia). Surgical notes as well as radiographs were reviewed to classify the acetabular fractures appropriately according to the Letournel system. Notes and radiographs were also examined to determine outcomes post-operatively. All surgeries were performed by orthopaedic attendings at Beth Israel Deaconess Medical Center within 48 hours of admission following appropriate medical clearance. All of the patients

who were operated on were ambulatory at baseline before their injury. Follow-up complications recorded include: mortality, post injury or postoperative morbidity such as pulmonary embolus, deep venous thrombosis, respiratory insufficiency, cardiac dysfunction, stroke and infection. Duration of hospital stay, duration of rehab stay, return to pre-injury living status, and return to pre-injury ambulation status were also recorded to determine outcome. The Social Security Death Index was also utilized to determine mortality in patients lost to follow up. Institutional Review Board approval was obtained before initiation of the study.

RESULTS

Fourteen patients were treated with ORIF and 15 were treated non-operatively. Fracture patterns (operative, non-operative respectively) were: posterior wall (2,1), transverse-posterior wall (2,0), both column (2,0), anterior column-hemi-transverse (1,0), post column-post wall (2,0) transverse (2,2), anterior column (3,9), anterior wall (0,3). Average age was 75 (range 52-86) in the operative group and 83 (range 71-92) in the non-operative group.

Follow-up averaged 9 months (range 1-25) in operated patients and 7 months (range 1-24) for non-operated patients average hospital stay was 9.5 days for the operated group (range 3-25) and 10 days for the non-operated group (range 0-20). Fifty-seven percent of operated patients had not returned to their baseline ambulation by their latest follow up while only 25% of non operated patients had not. Two of the operated and one of the non-operated patients required conversion to total hip arthroplasty within one year. Mortality in the operated group was 28% within one year. Of the operated group, causes of death were one pulmonary embolus at 10 months, one intracranial hemorrhage at 3 days, one multi system organ failure at 4 months, and one pneumonia at 11 months. Early mortality in the non-operated group was 20% (three patients), one died from complications of lung cancer at 2 months, one died at 24 days from renal and heart failure, and another died of respiratory arrest at 14 days from ongoing pneumonia and CHF already present at admission.

DISCUSSION

Elderly patients (defined as age >75 y/o) as well as younger individuals (>65 y/o) with significant medical comorbidities suffer from high morbidity and mortality after acetabular fractures regardless of treatment options. However, non operated patients had overall decreased mortality and earlier return to

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baseline ambulation status. There may be a role for the non-operative treatment of acetabular fractures in this debilitated patient population. Initial non-operative treatment does not

preclude staged elective arthroplasty in those patients who develop symptomatic post-traumatic osteoarthritis and are able to undergo this procedure.

References

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