University Journal of Surgery and Surgical Specialities

ISSN 2455-2860 2020, Vol. 6(3)

MANAGEMENT OF DUVERNEY FRACTURES

SARAVANAN B
Department of Orthopaedic Surgery, MADRAS MEDICAL COLLEGE AND GOVERNMENT GENERAL HOSPITAL

Abstract : Isolated iliac wing fractures are rare with one of the first descriptions of such an injury reported by Duverney. AIM - Aim of our study is to analyze and discuss the functional improvement, early mobilization, clinical outcome of the iliac wing fractures managed by recon plating and K wires. MATERIALS AND METHODS - We treated 5 patients of isolated iliac wing fractures in our Government General Hospital, among them all 5 are male patients, all underwent Road Traffic Accident 4 are Closed 1 was Compound. Duration between admission and Surgery is 15 days. In Post OP Follow up we assess the clinical outcome of patients by MAJEED Pelvis Scoring System. RESULTS - In our study out of 5 patients 4 were closed and one was compound. 4 patients treated by ORIF with recon plating. One patient by k wire fixation. No mortality and morbidity associated with iliac wing fractures. All patients were hemodynamically stable. DISCUSSION - The fracture pattern depends upon the direction of the applied forces. Arterial injury specially the iliac, lateral iliac and gluteal arteries are potentially at risk with iliac bone fractures. Associated life-threatening injuries must not be missed. A high index of suspicion for arterial lesions, as well as organ injury is the most important clinical recommendation. Treated pts had improved MAJEED pelvic score.

Keyword : Iliac Wing Fracture

INTRODUCTION

Isolated iliac wing fractures are rare with one of the first descriptions of such an injury reported by Duverney and frequently reported in pediatric literature occurring secondary to bicycle or seat belt trauma. These isolated fractures do not compromise stability of the pelvic ring , are not as amenable to internal or external fixation and do not receive the same attention as the unstable type B and type C pelvic ring fractures However these fractures may be associated with arterial injury, degloving or open injury and major organ involvement. It is a not a potential lethal injury and not associated with morbidity, in previous days its classified by direction of force during the time, generally are managed by conservative method In our study we treated 5 cases of isolated iliac wing fractures out of 5 ,4 patients treated by recon plating 1 patient by K wire Fixation and we assess the further improvement and discuss recent clinical outcome in this patients

AIM

Aim of our study is to analyze and discuss the functional improvement, early mobilization, clinical outcome of the iliac wing fractures managed by recon plating and K wires

MATERIALS AND METHODS

We treated 5 patients of isolated iliac wing fractures in our Government General Hospital, among them all 5 are male patients, all underwent Road Traffic Accident 4 are Closed 1 was Compound. Duration between admission and Surgery is 15 days. In Post OP Follow up we assess the clinical outcome of patients by MAJEED Pelvis Scoring System.

MAJEED PELVIS SCORE

Pain (30 points)	
Intense, continuous at rest	0-5
Intense with activity	10
Tolerable, but limits activity	15
With moderate activity, abolished by rest	20
Work (20 points)	
No regular work	0-4
Light work	8
Change of job	12
Same job, reduced performance	16
Same job, same performance	20
Sitting (10 points)	
Painful	0-4
Painful if prolonged or awkward	6
Uncomfortable	8
Free	10
Standing (36 Points)	
A-Walking aids (12)	
Bedridden or almost	0-2
Wheelchair	4
Two crutches	6
Two sticks	8
One stick	10
No stick	12
B-Gait unaided (12)	
Cannot walk or almost	0-2
Shuffling small steps	4

Gross limp	6
Moderate limp	8
Slight limp	10
Normal	12
C-Walking distance (12)	
Bedridden or few metres	0-2
Very limited time and distance	4
Limited with sticks, difficult without prlonged standing possible	6
One hour with a stick limited without	8
One hour without sticks slight pain or limp	10
Normal for age and general condition	12

CASE REPORT'S AND RESULTS

CASE NO : 1

26 Yrs Male patient had RTA and Diagnosed as Right Iliac Wing Fractures for Whom Open Reduction and Internal Fixation with Recon Plating done. Patient was hemodynamically Stable and no other pelvic Bone Injury and Visceral Injury, Fracture United by 12 weeks. Patient Mobilisation started by 12 weeks and no neurological deficit detected in this patient. MAJEED Pelvic score for this patient was 68.

PRE OP XRAY INLET VIEW

PRE OP XRAY OUTLET VIEW

PRE OP CT

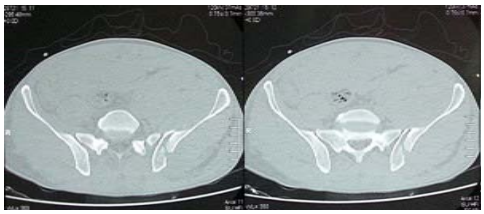
IMMEDIATE POST OP XRAY

3 MONTHS FOLLOW UP

CASE NO : 2

32 yrs old Male Patient underwent RTA and diagnosed as Left Iliac wing Fracture. After 14 days Open reduction and Internal Fixation with Recon Plating done. Early Mobilization Started by Eight Weeks, in Post OP follow up patient range of Movements was good, no Neurological Deficits found in this patient. MAJEED Pelvis Score for this patient was 71.

PRE OP X RAY PRE OP



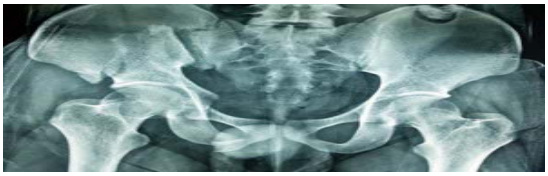
PRE OP CT

IMMEDIATE POST OP

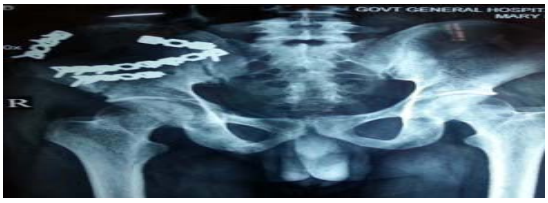
3 MONTHS FOLLOW UP

CASE NO : 3

28ys old Male Patient had RTA and diagnosed as Right ileum Fracture with Pubic Diastasis. Patient was treated with open reduction and internal fixation with recon plating. Early mobilization started by 6 weeks, fracture united in 8 weeks, no neurological defeict detected. MAJEED Pelvis score for this patient was 69.



PRE OP XRAY



POST OP X-RAY

3 MONTH FOLLOW UP

CASE NO : 4

24 ys old male patient with RTA diagnosed as Right Iliac wing Fracture and surgery done by 10 days with procedure of open reduction and internal fixation with recon plating and early mobilization started by 8 weeks, fracture united by 12 weeks no neurological deficit was found ,MAJEED pelvis score for this patient WAS 73.

PRE OP XRAY

PRE OP CT

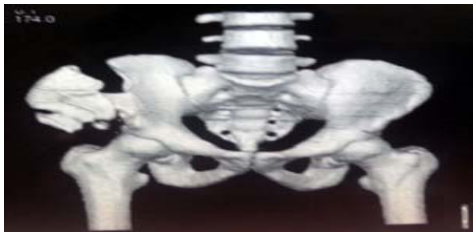
IMMEDIATE POST OP XRAY

3 MONTH FOLLOW UP

CASE NO : 5

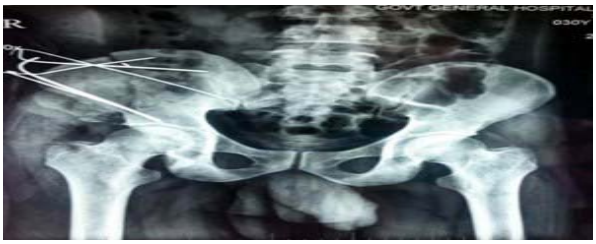
26yrs old male patient came with history of RTA and Diagnosed as Grade III B compound fracture iliac wing right and surgery done after one month. Procedure done wound debridement and K Wire Fixation, patient Mobilization started by 2 months, fracture united by 12 weeks with no neurological deficit. MAJEED Pelvis scoring for this patient was 72.

PRE OP XRAY



PRE OP CT

IMMEDIATE POST OP XRAY



3 MONTH FOLLOW UP

DISCUSSION

Isolated Pelvic Ring lesions, AO/OTA are generally considered stable and less severe than the type B and C Fractures our retrospective review of patients with isolated iliac wing fractures without compromising pelvic stability represents the largest number of such patients reported we found a frequent association with moderate to severe potentially life threatening injuries to non skeletal organs including thoracic, visceral, vascular, urologic and Gynecologic systems In our study we took 5 patients out of which 4 were closed and one was compound. 4 patients treated by ORIF with recon plating. One patient by k wire fixation. No mortality and morbidity associated with iliac wing fractures. All patients were hemodynamically stable. No death detected. Post operatively patient had good clinical outcome by sitting, standing without pain. The fracture pattern depends upon the direction of the applied forces. Arterial injury specially the iliac, lateral iliac and gluteal arteries are potentially at risk with iliac bone fractures. Fibrosis or fracture healing with callous can result in entrapment neuropathy where the nerves cross the iliac bone. With isolated iliac wing fractures, articular congruence is not a concern and healing usually occurs without difficulty probably related to excellent vascularity supplied by good muscle coverage.

CONCLUSION

Isolated iliac wing fractures that do not affect the stability of the pelvic ring are rare injuries. Key- associated life–threatening injuries must not be missed. A high index of suspicion for arterial lesions, as well as organ injury is the most important clinical recommendation we can give, as these potentially life-threatening injuries will require emergency surgical management. We found little indication for operative stabilization of these fractures unless bony fragments compromised bowel function or were grossly rotated and displaced. Average duration from injury to internal fixation in our series was 4days (ranging from 7 days to 30 days). Average time to union was observed to be 6 weeks. Our study has a mean follow up of 3 months (2 to 5 months). Functional outcome was assessed by Majeed pelvis score. Average score was 70.