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Clinical Evalution of the Results of Jewett Nail Plate Fixation for Trochanteric Fracture

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Abstract

This study was carried out on 53 patients admitted in the Department of Orthopaedics, Rajshahi Medical College who were admitted with trochanteric fractures and were operated. Among them, 37 (69.81%) patients had their fracture due to fall on the ground during walking and 16 (30.19%) sustained injury due to road traffic accident. Regarding type of fracture 30 (56.60%) had stable fracture and 23 (45.40) had unstable fracture.

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Introduction

Trochantaric fracture is a common problem of traumatology in our country especially in the elderly group. Appropriate surgical fixation is of paramount importance in order to get rid of its complications. Bed-sore, deep venous thrombosis, joint stiffness, muscle hypotonia are common problems in this fracture if not operated in time. While it is recognized that most trochanteric fractures unite readily when treated by traction, operative treatment is not only expeditious and economical but conservative as well in the sense of conserving or preserving the viability of the elderly patients. Close reduction and internal fixation of these fractures should be done with the aim of obtaining rigid and stable internal fixation that will permit the patient to be mobile and ambulatory within a short period of time[1]. Internal fixation, using one of the many varieties of articulated or fixed pin and plate, is used almost universally now a days in the treatment of trochanteric fractures[2]. Incorrect nailing will not produce stability, the pin will not produce stability, the pain will persist and many problem ensue[3].

Materials and Methods

This study was done exclusively in the Orthopaedic Department of Rajshahi Medical College Hospital from July 2000 to September 2001. All the patients were admitted, operated and discharged after stitch removal on an average of ten days postoperatively. In this prospective study, 53 patients were operated by close reduction and internal fixation by Jewett nail-plate. Both stable 30 (56.60%) and unstable 23 (45.40%) varieties of fracture are included in this study. Regarding sex distribution, 40 (75.40%) were male and 13 (24.53%) were female. Thirty Seven patients had the history of fall on ground and 16 (30.19%) are patients of guide wires. In most of the cases 5 or 6

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hole Jewett nail-plate were used. Almost all patients required 1 or 2 units of blood per operatively. Post-operatively, patients were encouraged for walking non-weight bearing with the help of a pair of crutch. A follow-up of 14 months (shortest 8 months and longest 22 months) post-operatively were carried out.

Results

In this study of 53 patients, the fracture site readily united within 7 months (earliest) and 18 months (latest). The parameters of results are: (1) Range of painless movement; (2) Shortening of the affected limb; (3) Deformity in the form of coxa-vera and (4) Full squatting and walking. Forty three (84.90%) patients had full range of painless movement; 51 (96.22%) patients did not have any shortening whereas 2 (3.78%) had little shortening. So far coxa-vera is concerned 48 (90.56%) patients had no coxa-vera and 5 (9.44%) experienced little coxa-vera. Regarding squatting and free walking 49 (92.45%) had full squatting and free walking and only 4 (7.55%) patients had little squatting problem.

Discussion

Trochanteric fracture is a common problem in the elderly group of patients. The treatment should be so planned as to encourage union without deformity and at the same time allow early mobilization. Thus the treatment of choice should be operative, employing some form of internal fixation[4]. In this study both stable and unstable varieties of fractures are included. The stable fractures are of displaced and undisplaced types. The type of displacement depends upon whether the greater trochanter remains attached to the proximal or distal fragment[5]. In the unstable variety the fracture lacks continuity of bone cortex on the opposing surfaces of the proximal and distal fragments[6]. The unstable fractures are difficult to stabilize and sometimes ends in failure. This failures led Mervyn Evans to advise that unstable fractures should be fixed in the position of deformity[7]. While Clawson advocated a return to radical conservatism, with continuous traction as the treatment of choice[8].

Table-1: Cause of Trochanteric fracture among the study group (n=53)

Cause	Number	Percentage
Fall on ground	37	69.81%
Road Traffic Accident (RTA)	16	30.19%

Table-2: Age distribution of patients among the study group (n=53)

Age	Number	Percentage
Above 50 years	39	73.58%
Below 50 years	14	26.52%

Table-3: Sex distribution among the study group (n=53)

Sex	Number	Percentage
Male	40	64.15%
Female	13	35.85%

Table-4: Type of fracture among the study group (n=53)

Type	Number	Percentage
Stable	30	56.80%
Unstable	23	45.40%

Table-5: Associated injury among the study group (n=53)

Association of injury	Number	Percentage
Without associated injury	44	83.01%
With associated injury	09	16.99%
Colle's fracture -3		
Tibial fracture -1		
Rib fracture -1		
Patella fracture -1		
Soft-tissue injury fracture -3		

Table-6: Associated Pathology in fracture site among the study group (n=53)

Fracture Status	Number	Percentage
Non Pathological	47	88.67%
Pathological	06	11.33%

Table-7: Analysis of results of operation among the study group (n=53)

Items	Good	Fair	Percentage
Full range of	45	-	84.90%
movement	-	8	15.10%
Shortening	51	-	96.22%
	-	2	03.78%
Coxa-vera	48	-	90.56%
	-	5	09.44%
Squatting and walking	49	-	92.45%
	-	4	07.55%

Trochanteric fracture before fixation

Trochanteric fracture after fixation with Jewett Nail Plate

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