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Sociodemographic Characteristics of Intercondylar Fracture of Femur Patients

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Abstract:
Objective: *In this study our main goal is to assess sociodemographic characteristics of intercondylar fracture of femur patients.*
Method: *This clinical trial was carried out at the National Institute of Traumatology and Orthopaedic Rehabilitation (NTTOR), Dhaka over a period of two years between January 2017 to December 2018.A total of 15 patients of intercondylar fractures of femur meeting the selection criteria were consecutively included in the sample.*
Result: *majority (86.6%) of injuries happened by motor-vehicle accident. One (6.7%) injury was caused by motor-cycle accident and another 1(6.7%) by fall from height.13(86.7%) presented with right intercondylar fracture and only 2(13.3%) with left intercondylar fracture. Two-thirds (66.7%) of the injuries were closed type and the rest (33.3%) were open type*
Conclusion: *From our study we can conclude that, intercondylar fractures of the distal femur patients didn't get adequate facilities to operate timely. Patient also fails to follow up in proper time. Further study is needed to better outcome*
Keyword: *Condylar plate, intercondylar fracture.*

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I. Introduction

Supracondylar and intercondylar fractures of the distal femur fractures often are unstable, comminuted and tend to occur in elderly often with multiple injuries. Because of the proximity of these fractures to the knee joints, regaining full knee motion and function may be difficult. Fractures with a comminuted medial buttress or segmental bone loss or very low transcondylar fracture may angulate into varus because of movement at the screw-plate interface. [1-3]

Biomechanical studies revealed that the gross loosening of the standard condylar plate and DCS occurred because of toggle at the screw-plate interface. To address these issues, a first generation locking condylar plate was designed. A locking plate decreases screw-plate toggle and motion at the bone-screw interface and provides more rigid fixation. Rigid fixation is felt to be the key to successful treatment of these fractures. [4] In this study our main goal is to assess sociodemographic characteristics of intercondylar fracture of femur patients.

II. Objective

General objective:

- To assess sociodemographic characteristics of intercondylar fracture of femur patients.

Specific objective

- To detect basal characteristic of the patients.
- To identify complication after treatment.

III. Methodology

Study type:

- The study was a clinical trial.

Place and period of study

- The study was carried out at the National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR), Dhaka over a period of two years between January 2017 to December 2018.

Study population

- Radiologically proven cases of intercondylar fracture of the femur admitted in NITOR were the study population.

Inclusion criteria:

- Adult patients of > 18 years irrespective of sex
- Intercondylar femoral fractures of Muller Type Cl, C2 and C3.
- Both closed and open fractures, Gustillo-I, II

Sample size:

- A total of 15 patients of intercondylar fractures of femur meeting the above selection criteria were consecutively included in the sample.

Detailed procedure:

- In all cases a detailed history and clinical examination were done. Relevant investigations like complete blood count, random blood sugar and serum creatine were done routinely. Any associated illness such as hypertension, diabetes mellitus, pulmonary problem and concomitant injuries were excluded and if present were treated adequately. X-ray of the affected thigh including hip and knee joints (A/P and lateral view) were performed and selected cases were treated by condylar plate under general/spinal anesthesia.

Data analysis

- Collected data were analysed using software SPSS (Statistical Package for Social Sciences) version 11.5 for windows. Descriptive statistics were used to analyse the data. Analysed data were presented in the form of tables and charts with due interpretation.

IV. Result

In figure-1 shows age distribution of the patients where most of the patients belong to >40 years age group, 53.30%. The following figure is given below in detail:

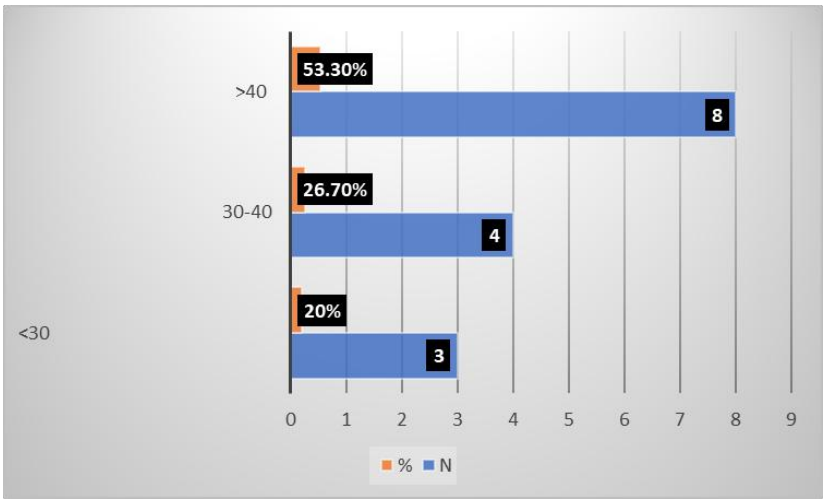

Figure-1: Age distribution of the patients.

In table-1 shows gender distribution of the patients where only 27% patients where female, where 73% were male. The following table is given below in detail:

Table-1: Gender distribution of the patients

Gender	%
Male	73%
Female	27%

In figure-2 shows distribution of the patients according to occupation where most of the patients were day laborer, 63.60%. The following figure is given below in detail:

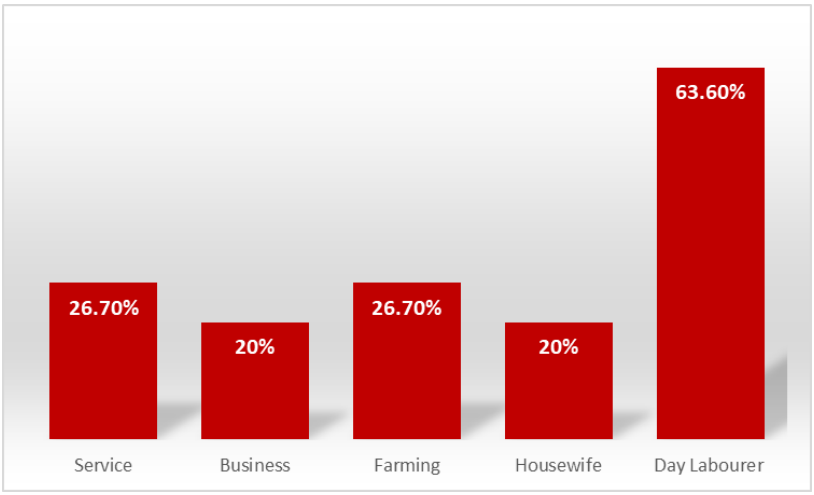

Figure-2: Distribution of the patients according to occupation

In table-2 shows baseline characteristics of the patients where out of 15 patients, 13(86.7%) presented with right intercondylar fracture and only 2(13.3%) with left intercondylar fracture. Two-thirds (66.7%) of the injuries were closed type and the rest (33.3%) were open type. The following table is given below in detail:

Table-2. Distribution of patients by baseline characteristics (n = 15)

Baseline characteristics	Frequency	Percentage
Affected limb		
Right	13	86.7
Left	02	13.3
Type of injury		
Closed	10	66.7
Open	05	33.3

In table-3 shows distribution of patients by high energy trauma where, majority (86.6%) of injuries happened by motor-vehicle accident. One (6.7%) injury was caused by motor-cycle accident and another 1(6.7%) by fall from height. The following table is given below in detail:

Table-3: Distribution of patients by high energy trauma (n = 15)

Mechanism of injury	Frequency	Percentage
Motor vehicle accident	13	86.6
Motorcycle	01	6.7
Fall from height	01	6.7

In table-4 shows distribution of patients by activity level where sixty percent of the patients returned to routine preinjury activities, 26.7% patients to preinjury activities with mild limitations and 13.3% to routine activities with moderate limitations.

Table-4: Distribution of patients by activity level (n = 15)

Activity level	Frequency	Percentage
Return to preinjury activities	09	60.0
Preinjury activities with mild limitations	04	26.7
Preinjury activities with moderate limitations	02	13.3

In figure-4 shows distribution of patients by status of union where radiological evaluation of fracture site showed that 80% united and 20% had delayed union . the following figure is given below in detail:

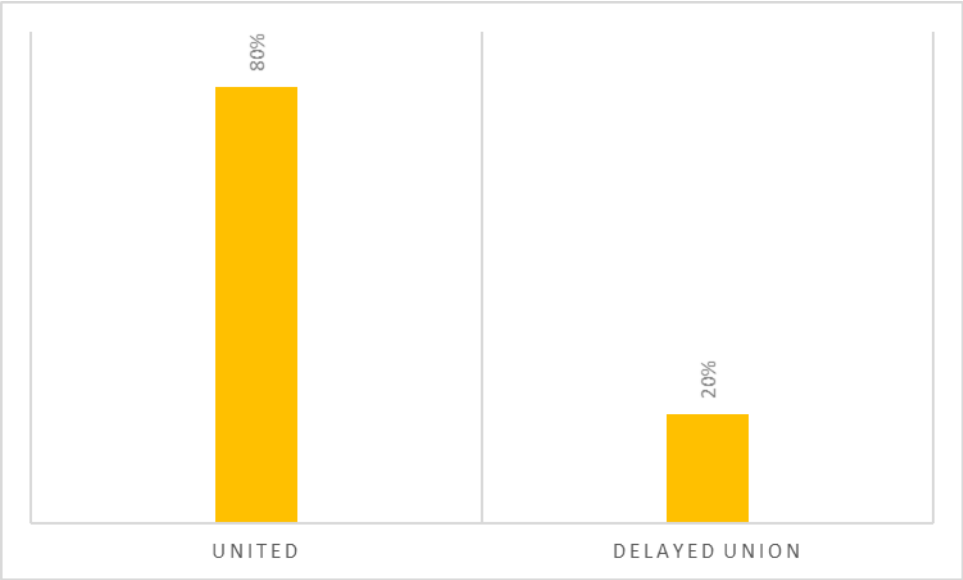

Figure-4: Distribution of patients by status of union (n = 15)

In table-5 shows distribution of patients by complications encountered that, more than one-quarter (26.7%) of the patients developed deformity and 3(20%) had delayed union. The following table is given below in detail:

Table-5. Distribution of patients by complications encountered (n = 15)

Complications	Frequency	Percentage
Delayed union	**03**	**20.0**
Deformity	**04**	**26.7**

V. Discussion

The present study intended to evaluate the outcome of intercondylar fractures of femur treated by condylar plate included 15 patients with mean age of the patients 42.6 ±16.1 years. Nearly three-quarters (73%) of them were male with prime occupation being labours (63.3%). One report conducted a study on 24 men and 17 women with a mean age of 51 years (range: 15 to 80 years). [5]

In one study, seventy-one patients were male and 22 were female with mean age being 46.9 years. Both these studies bear consistency with the findings of our study.[6]

Majority (86.6%) of injuries in our study happened by motor-vehicle accident. However, one report observed a low rate of intercondylar fracture of the femur caused by motor vehicle accident (44 out 70). [6]

Radiological evaluation of fracture site showed that 80% united and 20% (3) had delayed union. Period of fracture union is 16 to 24 weeks (average 18.23 weeks). 3 patients showed delayed union and those fractures also united within 28 to 32 weeks.

Four of the patients developed deformity. Two patients developed posterior angulation (6° and 10°). One patient developed 5° extension loss . In this study there is no non-union and no patient developed infection.

One study reported 3(7.5%) delayed unions and 5(12.5%) deformity. Another study also reported a similar finding with stiffness of knee, nonunion, delayed union, and infection being the major complications. [7]

VI. Conclusion

From our study we can conclude that, intercondylar fractures of the distal femur patients didn't get adequate facilities to operate timely. Patient also fails to follow up in proper time. Further study is needed to better outcome.

Reference:

[1]. Handolin L, Pajarinen J &Tulikoura 12003, 'Injury to the deep femoral artery during proximal locking of a distal femoral nail—a report of 2 cases', *Acta OrthopScand*, vol.74,no.l,pp.l 11-3.

[2]. Healy WL & Brooker AF 1983, 'Distal Femoral Fractures Comparison of Open and Closed Methods of Treatment', Clinical Orthopaedics, vol.174, pp2-l 13.

[3]. Helfet DL, Lorich DG 1990, 'Retrograde femoral nailing of supracondylar femoral fractures. Clin Orthpaedics, vol. 332, pp. 98-104.

[4]. Helfet DL 1992, 'Fractures of distal femur. In Browner BD, Jupiter JB, Leyine AM, Trafton PG (eds.). Skeletal trauma 1st ed. Vol. 2, WB Saunders Philadelphia, pp. 1646-8.

[5]. Higgins TF, Pittman G, Hines J &Bachus KN 2007, 'Biomechanical analysis of distal femur fracture fixation: fixed-angle screw-plate construct versus condylar blade plate', *J Orthop Trauma*, vol.21,no. 1, pp.43-6.

[6]. Hussein ALA & El-DinTMSN. Femoral condylar buttress plate. Pan Arab J Orth Traum, Vol.2,No.2,p. 143-8.

[7]. .Insall JN, Chitranjan S. Ranawat, MD, Paolo Aglietti, MD, John S.A. 1999. Comparison of Four Models of Total Knee Replacement Prostheses. *Clin Orthop*, vol.2, pp. 367.

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