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EVALUATION OF DISABILITY AND MORTALITY RATES AFTER SURGICAL TREATMENT OF INTERTROCHANTERIC FRACTURES AMONG PATIENTS HAVING MINIMUM 60 YEAR OF AGE

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Abstract:
Objective: *This research work aimed to evaluate the disability and mortality rates after the surgical intervention in the patients having more than sixty year of age for intertrochanteric fractures of femur.*
Methodology: *In this research work, three hundred and eighty-five patients having age of sixty years or more who got admission in Qazi Hussain Ahmad Medical Complex, Nowshera from April 2015 to November 2019 and underwent surgical intervention were the participants of this research work. The treatment of all the patients carried out by internal fixation and open reduction with the help of dynamic hip screw. There were 53.50% (n: 206) male and 46.40% (n: 179) female patients. The range of the age of the patients was from 60.0 to 89.0 years with an average age of 75.20 years. The minimum duration needed after surgical intervention to enter this very research work was 1 year. We gathered the results depending upon the patient's examination or calling those patients or their family members on their phone numbers.*
Result: *Mortality rate was 36.90% in this research work with 54.90% for males and 41.90% for females. In 11 (2.84%) patients, there was loss of initial reduction due to the failure of device of fixation. We re-operated these patients and seven patients among them expired within an average duration of 10.10 months after re-operation. The delay of time for the surgery after fracture was from two to fifteen days with a mean duration of 4.80 days. Twenty-four (6.230%) patients underwent surgery one week later after fracture and seven among them expired. There was highest rate of mortality in the age group of 80 to 89 years with (63.02% (n: 50) patients and there was lowest mortality rate in age group of 60 to 69 years with 4.67% (n: 3) patients only. We measured the disability rate and QoL of patients with the use of MHHS (Modified Harris Hip Score) and we separated them into fair, good and weak groups.*
Conclusion: *The rate of mortality of intertrochanteric fractures is very high even after the surgical intervention and it has strong relation with the patient's age. Furthermore, QoL (Quality of Life) of the patients after surgical intervention is very low and there should be an improvement in the follow ups of these patients to overcome this issue.*
KEYWORDS: *Intertrochanteric Fracture, Life Quality, Morbidity, Osteoporosis's, Trauma Injuries.*

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INTRODUCTION:

Intertrochanteric fractures are the main issue of health among populations and it is the most severe osteoporosis's complications in the patients of elder age. There is variation in the incidence rate of fragility fractures in various countries and various research work reported from 37 to 400 per 100000 persons per year for males and 97.50 to 920.70 per 100000 persons per year for females [1]. This kind of fractures are responsible for 7.0% of entire fractures of osteoporosis [2]. Intertrochanteric fractures of hip normally cross the area between greater trochanter and lesser trochanter [3]. These types of fractures are much common in the patients of elder age present with osteoporosis. In the patients of young age, these fractures have association with high energy and trauma injuries.

We can see approximately 90.0% intertrochanteric fractures among people having more than sixty-five years of age [4, 5]. This event in the population of elder age has association with the high rates of mortality and a reduction in their performance [6] and decrease in their QoL [7]. The non-surgical practices for the treatment of these fractures are not common but there are some cases present which makes the rate of mortality very high [8]. The recommended treatment in the fixation of intertrochanteric fractures is DHS [9]. The most important issue to administer this type of fracture is the less level of patient return to his routine life activities and it also restricts patient from performing normal tasks [10]. More than 50.0% patients require support to fulfill their routine activities and 25.0% will be in need of care for long term [11].

METHODOLOGY:

This research work carried out on the patients having more than sixty years of age suffering from intertrochanteric fracture. All these patients underwent surgical intervention in Qazi Hussain Ahmad Medical Complex, Nowshera from April 2015 to November 2019. The evaluation of these patients was depending upon their interviews, medical files and their close relatives. We used the HHS (Harris Hip Score) questionnaire for the measurement of their QoL. Patients present with pathologic fractures, having multiple fractures and without complete records in their files were not the participants of this current research work. The ethical committee of the institute gave the permission to conduct this research work. There were three hundred and eighty-five patients in this research work in which 53.50% (n: 206) were male and 46.50% (n: 179) were female patients, with a range of age from 60.0 to 89.0 years and their average age was 75.20 ± 8.78 years. The average age of deceased patients was 81.40 years.

RESULTS:

The findings of this research work stated that 36.90% (n: 142) patients had died in which 54.90% (n: 78) were men and 45.10% (n: 64) were females. We separated the patients into three age groups of 60-69, 70-79 and 80-89 years. The highest rate of mortality was in group 80-89 years of age (63. 010%) and the lowest rate of mortality was in group of 60-69 years (4.670%) as presented in Table-1.

Table-I: Mortality Rates Of The Patients

Age	Gender/ Survival status			
	Male		Female	
	Alive	Died	Alive	Died
60 - 69 years	57.0	3.0	45.0	2.0
70 - 79 years	41.0	25.0	46.0	20.0
80 - 89 years	30.0	50.0	24.0	42.0

We re-operated 11 patients, among them 7 patients died. Total 24 patients who underwent surgery after one week of fractures, seven patients died. QoL of the patients was evaluated in 3 groups of good (71-90), fair (51-70) and poor (0-50) depending upon the scores of questionnaires. The good group contained eighty-six (35.540) patients with an average age of 64.630 years and majority of the patients was males. Fair group had Seventy-four (30.50%) patients with average age of 73.450 years and male and females were equal in number.

Poor Group had eighty-three patients (34.2%) with an average age of 77.450 years and majority of the patients were males. In group of 60-69 years of age, 69.6% (n: 71) were in good group, 16.660% (n: 17) were in fair group and 13.720% (n: 14) were in poor group. The 70-79 years' group contained 14.940% (n: 13) in good group, 49.420% (n: 43) in fair group and 35.630% (n: 31) in poor group. The 80-89 years' age group was 3.7% (n: 2) in good group, 25.920% (n: 14) in fair group and 70.370% (n: 38) in poor group (Table-2).

Table-II: Quality of Life of Patients

Age Group	Patients' Category					
	Good		Fair		Poor	
	No	Percent	No	Percent	No	Percent
60 - 69 years	71.0	69.600	17.0	16.660	14.0	13.720
70 - 79 years	13.0	14.940	43.0	49.420	31.0	35.630
80 - 89 years	2.0	3.700	14.0	25.920	38.0	70.370

The average duration of time from fracture incidence to the surgical intervention was 4.80 days with a range of two to fifteen days. Of two hundred and forty-three alive patients, only 4 patients got re-operation (Table-3). Seventeen alive patients had surgical intervention after one week of fracture and average score of HHS in these patients was 55.52 and those who underwent surgery in less than one week the average score was 57.9.

Table-III: Device Failure. Fixation Surgery

Questionnaire Score	No.	Mean Age	Gender		Duration (Week)
			Male	Female	
Poor	83.0	77.450	43.0	40.0	6.0
Fair	74.0	73.450	37.0	37.0	8.0
Good	86.0	64.630	48.0	38.0	3.0

DISCUSSION:

In this current research work, most of the patients were from male gender. Many other research work have reported that these fractures were more common among females, 74.930% patients were from female gender in the research work of Hindmarsh [12]. The rate of mortality was 36.90% in this research work which is much higher than the findings of study conducted by Van Balen, who stated the mortality rate as 20.0% [13]. One other research work conducted by Scott Schnell stated that the rate of mortality was 21.20%, [14], which is also much less than this current research work. In the research work of Fierens, which was carried out on 2 groups in 2 periods of five years of 1978-1983 and 1998-2003, the rates of mortalities were 24.0% and 23.0% respectively [15]. These findings were also much less than the result of this research work. Pioli in his research work also reported the rate of mortality as 25.40% [16]. In the research work of Mellick Chehade interrogating the impacts of intertrochanteric fractures stability on the rate of mortality among people having age from 36 to 106 years, this rate was 30.0%. The rate of reoperation in one year after first surgical intervention was 2.80% [17].

This research similar to the study conducted by Kesmezacar displayed that there is high risk of mortality with the increase of age and the average age of the deceased patients was 81.50 years, which is much close to the findings of this current research work [18]. Jorma in his research work found that the danger of mortality in the patients of elder age present with hip fracture was 3 times higher than the patients of general age group [19]. In the research work conducted by Lee, 2.50% patients were present with the high motion ability and 40.0% patients among them were capable to walk without any support [20]. In this research work, we did not find any close association between rate of mortality and gender.

CONCLUSION:

This research work concluded that there was very high rate of mortality as compared to other research works. The QoL of the patients was much low as compared to other research studies. The correct follow up for such patients, timely management of fracture and best care are the necessary requirements to mitigate the high rate of mortality for these complications.

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