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SURGERY

FRACTURES OF THE FEMUR- A REPORT OF TWO HUNDRED CONSECUTIVE CASES

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SUMMARY

Femoral fracture is quite a disabling injury and one of the most difficult to treat. Developing countries like ours have their own Logistics problems that might affect the ultimate results. Ignorance and poverty have resulted in late presentations with resultant complications. Large series of femoral fractures treated over a ten year period at National Orthopaedic Hospital, Enugu has been reviewed. Of the Two Hundred cases seen 48.5% was due to Road Traffic Accidents which mainly occurred during period of festivities. 41.5% of the patients had already been to the Traditional Bone Setters Clinic before presenting. This accounted for the high rate of complication (78%) on presentation. The result of treatment showed that 54.5% had satisfactory results despite the late presentation. An attempt is made to arrive at principles of treatment taking our peculiar circumstances into considerations. The authors are of the opinion that open reduction and internal fixation is most suitable for these fracture.

Key-Words_ Femoral Fracture, Late Presentation, Complication, Treatment.

INTRODUCTION

Fracture of the femur is recognised as a very disabling injury. The femur is an integral part of the lower extremity and is designed to bear the weight of the body and to serve as a means of locomotion. Problems with the femur can cause a deviation of the normal alignment which, invariably, affects the hip and spine. Consequently, this will interfere with the function of support, balance and locomotion. Therefore, the underlying principles in the treatment of such fractures should be restoration of function, equilibrium of the limb when balance has been disturbed.

In a developing country like ours the factors come into play that might affect the ultimate result. These factors include ignorance and poverty with resultant late presentation and inadequacy of facilities and trained personnel.

The aim of this study is to examine the etiological factors, mode of presentation, treatment given and its outcome.

PATIENTS AND METHOD

The case notes of all the patients who had femoral fractures between January 1, 1978 and January 1, 1988 were examined. All those with doubtful and incomplete records were excluded in the study. The case notes were analysed based on Age, Sex, Aetiology, Site of injury, condition on admission, Seasonal Variation, Pre-specialist Hospital treatment and outcome.

RESULTS:

There were two hundred patients who qualified for the study. One hundred and fifty were males and sixty were females giving a ratio of 2.3:1. The age range was 8-92 with a Mean of 35:18+12.5.

AETIOLOGY: (See Table 1i)

Ninety-seven (48.5%) were due to Road Traffic Accident

Thirty-seven (10.55) fall from height

Forty-one (20.5%) fall from standing height

Ten (5%) from pathological fractures

Seven (3.5%) were not stated

Five (2.5%) from Gunshot wound

Two (1%) from sporting injury and

One (0.5%) from Industrial accident.

PRE SPECIALIST HOSPITAL TREATMENT

(See Table III)

Eighty-three (41.5%) received treatment at the Traditional Bone Setters' Clinic.

Fifty-one (25.5%) at General Hospital,

Thirty (15%) at Private Hospitals

One (0.5%) was not stated while thirty-five (17.5%) presented primarily.

SITE (See Table IV)

Ninety-one (45.5%) fractures occurred at the neck

Fifteen (7.5%) subtrochanteric

Thirty (15%) at upper third

Thirty-five (17.5%) middle third
Ten (5%) lower third and Nineteen (9.5%) at supracondylar region.

SEASONAL VARIATION (See Table v)

The month of January had nine patients (4.5%)
February had fourteen (7%), March had twenty (10%),
April had nineteen (9.5%), May had fifteen (7.5%),
June had eleven (5.5%), July had thirteen (6.5%),
August had fourteen (7%), September had twenty-four (12%) and December had seventeen (8.5%).

CONDITIONS ON ADMISSION: (See Table VI)

One hundred and fifty-six (70%) patients presented as cold cases while forty-four (22%) presented as emergencies.

Of the 156 patients that presented as cold cases, 81 (40.5%) had malunion, fifty-five (27.5%) non-union,

11 (5.5%) knee stiffness and nine (4.5%) soft tissue and bone infections.

Of the 44 emergency cases the associated injuries recorded were as follows:

Tibia 2 (6%), Head injury 6 (3%), Humerus 4 (2%),
Facial injury 4 (2%), Pelvic 3 (1.5%), Hand Injury 1 (0.5%), Ruptured spleen 1 (0.5%), Traumatic Paraplegia 1 (0.5%).

HOSPITAL STAY:

There was a mean of 38.95+4.5 days with range of 6-160.

TREATMENT (See Table VII)

Sixty-three (31.5%) patients had open reduction and plating, Twenty-three (11.5%) open reduction and K-nall, Twenty-eight (14%) open reduction and pinning, Thirty-five (17.5%) prosthesis, fifteen (7.5%) Girdle stone although and thirty-six (18%) were treated conservatively with P.O.P. and Traction.

OUT-COME OF TREATMENT (See Table VIII)

The results of treatment showed that 109 (54.5%) were satisfactory, twenty-three (11.5%) lost to follow-up.

Seventeen (8.5%) had limb shortening, fourteen (7%) implant failure, seven (3.5%) died, six (3%) took discharge against medical advice, wound infection occurred in 5 (2.5%), coxa vara in four (32%) of the patients.

There were chronic osteomyelitis in four (2%), Non union in four (2%), stiffness in three (1.5%), refracture in three (1.5%) and osteoarthritis of hip in one (0.5%) of these patients.

DISCUSSION

Trauma has been reported to be the commonest cause of femoral fractures by many authors. 1,2,3. Our studies were in accordance with these findings as our series showed this to be the highest causative factor. Presentation to unit after injury had been quite delayed as only 17.5% of patients presented themselves primarily after injury. The reason for delay was due to three groups of practitioners in our environment mainly: the traditional bone setter (T.B.S.), the General practitioner and the private practitioners. The first group of practitioners was responsible for the delay of patients. The high rate of patronage indeed affected the mode of presentation of these patients. Of the one hundred and fifty-six patients that presented as cold cases, 77% presented with fracture complications namely - mal-union, non-union, knee-stiffness and infections.

About 36% of our patients presented with associated injuries. This emphasizes the point of total examination of the injured patient on arrival as the primary desire of every surgeon undoubtedly is to save the life of his patient.

There was indeed a seasonal variation as most of our patients had their accidents during the months of March, April, September, October and December.

Weil in his series pointed out that there was increased incidence in the warm months as these were period of increased activities. These months in our series coincided with the period of festivities (Easter/Christmas celebrations).

Fracture of the neck of femur constituted the highest number in our sites. The shaft of the femur is commonly affected in first and second decades of life. However, after the age of 60, the neck became common. This was in accordance with Mahorner Series.

With the exception of 18 per cent of the patients who had conservative treatment other patients had to undergo surgery. The reason for this choice of treatment is two fold. Firstly, most of our patients presented with fracture complications as they had been to the traditional bone setters thus making conservative approach impossible. Secondly, we adopt a principle of early operative management to decrease hospital stay and increase bed space.

Oguachuba and Mbamali in their respective studies had very good results from early operative management. Our operative results were indeed good and compared favourably with theirs.

Our mortality rate was 3 - 5 per cent and these were mainly elderly patients with femoral neck fracture.

In conclusion, the highest causative factor of femoral fracture in our environment is trauma from Road Traffic

Accident and delay in presentation often results in complications. However, we believe operative management is still the best policy.

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TABLE I

| | |
|---------------------------|------------|
| No of Patients | 200 |
| Male 140 Female 60 Ratio: | 2.3:1 |
| Age Range 8 - 92 Mean | 35.18+12.5 |

TABLE II
AETIOLOGY

| | No. | % |
|---------------------------|-----|-------|
| RTA | 97 | 48.5% |
| Fall from height | 37 | 18.5% |
| Fall from standing height | 41 | 20.5% |
| Pathological | 10 | 5% |
| Not Stated | 7 | 3.5% |
| Gun shot wound | 5 | 2.5% |
| Sporting injury | 2 | 1% |
| Industrial accident | 1 | 0.5% |

TABLE III

PRE SPECIALIST HOSPITAL TREATMENT

| | |
|--------------------------|-------------------|
| Traditional Bone-setters | 83 (41.5%) |
| General Hospital | 51 (15.5%) |
| Private Hospitals | 30 (15%) |
| Not Stated | 1 (0.5%) |
| Primary presentation | 35 (17.5%) |
| | <u>200 (100%)</u> |

TABLE IV

CONDITION OF ADMISSION

| | |
|--|-----------------------------|
| COLD CASES | EMERGENCIES |
| 156 (78%) | 44 (22%) |
| Mal Union 81 (40.5%) | ASSOCIATION INJURIES |
| Non Union 55 (27.5%) | Tibia 12 (6%) |
| Knee Stiffness 11 (5.5%) | Head Inj. 6 (3%) |
| Infection (Soft Tissue Humerus Bone) 9 (4.5%) | 4 (2%) |
| | Facial Inj. 4 (2%) |
| | Pelvic 3 (1.5%) |
| | Hand Inj. 2 (1%) |
| | Patella 1 (0.5%) |
| | Scalp. inj. 1 (0.5%) |
| | Chest inj. 1 (0.5%) |
| | Ruptured Spleen 1 (0.5%) |
| Traumatic paraplegia | 1 (0.5%) |
| Hospital Stay - | |
| | Mean 38.95+4.5 days |
| | Range 6 - 160 |

TABLE VII
TREATMENT

| | |
|--------------------------------------|------------|
| Open Reduction + Plating | 63 (31.5%) |
| Open Reduction + K-Nail | 23 (11.5%) |
| Open Reduction + Pinning | 28 (14%) |
| Prosthesis | 35 (17.5%) |
| Girdle Stone Athroplasty | 15 (7.5%) |
| Conservative (P.O.P. + Skintraction) | 36 (18%) |

TABLE VIII
RESULTS OF TREATMENT

| | |
|--------------------------------|-------------------------------|
| Satisfactory 109 (54.5%) | Chronic Osteomyelitis 4(2%) |
| Lost to follow up 23 (11.5%) | Non-Union 4(2%) |
| Limb shortening 17 (8.5%) | Stiff Knee 3(1.5%) |
| Infant failure 14 (Replanting) | Refracture 3(1.5%) |
| Mortality 7 (3.5%) | Osteoarthritis of hlp 1(0.5%) |
| Discharge against advice | (6(3%) |
| | Total 200 (100%) |
| Wound infection | 5 (2.5%) |
| Cox vara | 4 (2%) |

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