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Research Article

A Retrospcetive Post-Mortem Study on Humerus Fracture

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Abstract: A humerus fracture may be classified by the location of the humerus involved: the upper or proximal end, the shaft, or the lower distal. Proximal humerus fractures may occur at the surgical neck of the humerus and anatomical neck of humerus greater and lesser tubercles. In this retrospective study, fatal road traffic accident cases autopsied during the period 1st January 2011 to 31st December 2013 were analyzed at the Department of Forensic Medicine & Toxicology, AIMS, B G Nagar, and Karnataka. During this study several epidemiological observations and their results were considered. In our study total numbers of autopsied cases during 2011 to 2013 are 323. In that 35 cases had humerus fracture. Maximum number of victims belongs to 21-30 years (11 cases) decade followed by 31-40 years (09 cases). 20 cases had proximal humerus fracture and 13 cases had shaft fracture. The vast majority of humerus fractures are treated without surgery. The arm can heal after it is immobilized in a cast, a special splint or a functional brace. Surgery may be needed for a more severe fracture, or any open fracture with exposed bone.
Keywords: humerus, fracture, proximal end, accident cases.

INTRODUCTION

A humerus fracture may be classified by the location of the humerus involved i.e.; the upper or proximal end, the shaft, or the lower distal. Proximal humerus fractures may occur at the surgical neck of the humerus and anatomical neck of humerus [1]. Fractures usually result from falls or direct trauma. In children the possibility of non-accidental injury should be borne in mind when taking the history and examining the child, especially in very young children. In the elderly, pathological fracture should be considered [2]. Common site of pathological fracture is the humerus [2]. Swedish study reported 8% of humeral shaft fractures were pathological [2,3].

Classification of humeral fractures is difficult. Generally classified as: Proximal humeral fractures, Humeral shaft fractures, Distal humeral fractures.

Proximal humeral fractures

Epidemiology of proximal humeral fractures is 4-5% of all fractures [3]. Usually injury occurs after a fall on to an outstretched hand from standing height. It can also occur during seizures or electric shock when fracture may be associated with a posterior shoulder dislocation or also as a result of direct blow [3].

Middle age/elderly are most commonly affected [4], occurring commonly in women with many patients being osteoporotic [3].

Humeral shaft fractures

Epidemiology of Humeral shaft fractures is 3% of all fractures, 3% of fractures in children aged <16 years [5]. Injury occurs mostly by a simple fall, may be linked to non-accidental injury in children aged <3 years and usually direct trauma or torsion injury to an upper limb [3].

Most fractures occurred in elderly patients, occur near the elbow joint but uncommon injuries in adults [3].

MATERIAL AND METHODS

In this retrospective study, fatal road traffic accident cases autopsied during the period 1st January 2011 to 31st December 2013 were analyzed at the Department of Forensic Medicine & Toxicology, AIMS, B G Nagar, and Karnataka. During this study several epidemiological observations and their results were considered.

RESULTS

Table 1: Incidence of humerus fracture cases

Total No. of Autopsied Cases	Total No. of Humerus Fracture Cases
323	35

Table 2: Age and Sex wise distribution of cases

Sl. No.	Age Group	No. Of Cases	Male	Female	Total
1	< 20 Yrs	03	03	00	03
2	21 – 30 Yrs	11	09	02	11
3	31- 40 Yrs	09	07	02	09
4	41- 50 Yrs	05	03	02	05
5	>50 Yrs	07	04	03	07
Total		35			35

Table 3: Type of Fracture

Type of fracture	No. of cases
Proximal humeral fractures	20
Humeral shaft fractures	13
Distal humeral fractures	02

DISCUSSION

In our study total numbers of autopsied cases during 2011 to 2013 are 323. In that 35 cases had humerus fracture. Maximum number of victims belongs to 21-30 years (11 cases) decade followed by 31-40 years (09 cases). 20 cases had proximal humerus fracture and 13 cases had shaft fracture.

Dedorah Allen reported incidence of humerus fracture is 4-6% of all fractures, 3rd most common fracture pattern seen in elderly with 2:1 female to male ratio. The increasing age correlates with increasing fracture risk in women [6].

In the United States, incidence of proximal humeral fractures within the Medicare population (sixty-five years of age or older) was approximately 250 per 100,000 in the period 1999 to 2005, with women population of approximately 80%. Causes include low-energy trauma in 87% that suggests an effect of osteoporosis. Proximal humeral fractures represent the third most common osteoporotic fracture type [7, 8].

Murray IR reported that ractures of the proximal humerus account for 5% of injuries to the appendicular skeleton. Most are stable, minimally-displaced osteoporotic fractures in the elderly resulting from of low-energy falls [9].

CONCLUSION

Majority of humerus fractures are treated without surgery. The arm can heal after it is immobilized in a cast, a special splint or a functional brace. For more severe fracture any open fracture with exposed bone surgery may be needed. The humerus will be repaired with plates and screws, or a metal rod. If case of open fracture antibiotics are given that's helpto prevent infection in the exposed bone and nearby tissues [10].

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