Original Article

Disastrous Effects of Fracture Treatment by Traditional Bone Setters

Effects of Fracture Treatment by TBS

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ABSTRACT

Objective: The objective of this study is to evaluate the complications seen in patients previously treated by traditional bone setters (TBS).

Study Design: Prospective descriptive study

Place and Duration of Study: This study was conducted at the Department of Orthopedic Surgery Peoples University of Medical & Health Sciences, Nawabshah from January 2017 to December 2017.

Materials and Methods: Total number of 50 cases of either sex initially treated by traditional bone setters reported at this hospital in emergency and OPD were included in this study. All the data was collected on a performa designed for the study.

Results: Total number of 50 patients were included in this study only 6(12%) patients got good results in the form of fracture union in satisfactory position and functional range of movements of involved joints, while remaining 44(88%) patients were suffering from complications. 15(30%) of patients out of 44 patients had mal-union, 7(14%) of patients had non-union, 4(8%) developed gangrene, 6(12%) patients reported compartment syndrome, 4(8%) patients had cellulitis, 3(6%) patients had infection, 2(4%) patients developed Volkmann's ischemic contracture and remaining number of patients developed stiffness of different joints.

Conclusion: To avoid such complications of traditional bone setters, it is important that their patronization should be discouraged.

Key Words: Traditional bonesetters, fracture, complications.

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INTRODUCTION

Orthopedic surgeons deal with deformity, diseases of bones and joints, and injuries to the musculoskeletal system. Because these are among the commonest things to affect humankind, there must always have been orthopedic surgeons of one kind or another, even in the most primitive communities. Wherever there was a witch doctor or medicine man dealing with illness and disease, as general practitioners and physicians do now, somewhere there would have been a bonesetter treating fractures and straightening limbs.

In some countries, the work of the bonesetter was willingly carried out by physicians, and Hippocrates himself is credited with the development of a technique for reducing dislocated shoulders which stood the test of time until general anesthesia made it easy to overcome muscle spasm.[1]

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Physicians were not always as enlightened as Hippocrates. The bonesetter, who earned his living by his ability to manipulated broken limbs, was often regarding with disfavor by the established medical profession, and this was certainly true in Britain. When the medical act of 1858 restrict the use of the title Doctor to those who had passed certain recognized examinations, bonesetter were excluded and become unregistered practitioners; whoever, this did not stop them practicing, and there success remained a source of continual irritation to the medical profession.[2]

The medical profession might have been denied access to the 'black arts' of the bonesetter altogether if it had not been for Even Thomas, renowned as the last of the great Welsh bonesetter, who decided to put all five of his sons through medical school. One of these sons was the legendary Hugh Owen Thomas (1834-91), who trained in Edinburgh but qualified with the London MRCS in 1857. It is ironic that when Hugh Owen Thomas joined his father's practice in Liverpool, they found themselves unable to work together and quickly parted.[3]

As orthopedic surgery become established, it attracted much the same attention from factions within the medicinal profession as the profession had shown the bonesetters of the nineteenth century. In 1918, 12 surgeons founded the British Orthopedics Association. Also in 1918, the Royal College of surgeons in England

found time in a busy schedule to view with mistrust and disapprobation the movement in progress to remove the treatment of conditions, always properly regarded as the main portion of the General Surgeons work, form his hands and places it in those of orthopedic specialist. The general surgeons were right to be worried; they are now almost outnumbered by orthopedic surgeons and the gap is closing fast.[4]

In many parts of developing world, large proportion of fracture continue to be treated by Traditional Bone Setters (TBS) who are readily available and often have a good local reputation.[1,2] TBS's service is an old practice of joint manipulation and treating fractures dates back to ancient times and roots in most countries of the world.[3,4] Modern orthopedic surgery has changed the treatment protocol and made traditional bonesetter (TBS) Services forbid in developed countries. Traditional Bone Setter (TBS) have been operating in rural and urban areas of Pakistan for centuries and most of the rural population prefer setting treating their fractures from a bonesetter to going to a hospital. In our setup, traditional bonesetters are widely popular and often the only address for treatment of bone related injuries. Traditional bonesetter are also know to offer cheaper services and allegedly faster treatment options. Traditional bonesetter usually claimed that the some fracture which doctors charge thousands of rupees and conduct operations to set, they can set which via decades old technique[5,6]. The most common methods of treatment by traditional bonesetter is to immobilize the fractured limb by application of tight splints and bandages. Majority of traditional bonesetters were trained by transferred knowledge from father to son and they usually use the easily available materials for fractured limb immobilization in the form of mud, bamboo sticks, rough wooden sticks, wooden bars, animal hairs or other contaminated herbs.[7-10]. The Traditional Bonesetters (TBS) treat their patients without reading the x-rays, even they don't know the basic anatomy and physiology of limbs, therefore they don't care about prevention and control of infection, which will be usually resulted into limb and life threatening complications.[7,11,12]

Most commonly reported complications include limb deformities due to mal-union & non-union, acute compartment syndrome, Volkmann's ischemic contracture, tetanus, osteomyelitis, gangrene, amputation and death.[3,8,10,13,14] The purpose of this study is to share our experience on the pattern of complications of treatment of musculoskeletal injuries by traditional bone setters at public sector hospital.

MATERIALS AND METHODS

This descriptive study was conducted at the Department of Orthopedic Surgery, Peoples University of Medical and Health Sciences, Nawabshah from January 2017 to December 2017. Total numbers of 50 cases of either sex initially treated by the traditional bonesetters reported at this hospital in emergency and out patients department were included in this study. All the information about the patients bio-data, injury pattern and extremity involved and complications were obtained by a predesigned proforma.

RESULTS

Out of 50 cases there were 34 (68%) males and 16(32%) females. The male:female ratio was 3:1 (Fig.No.1).

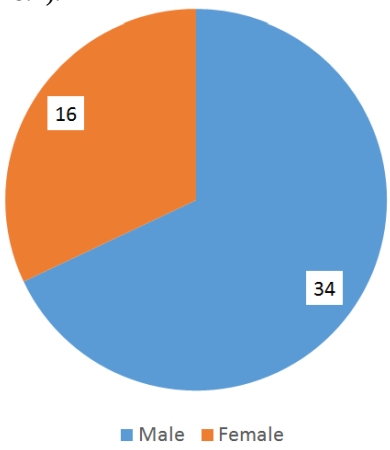

Figure No.1: Sex Distribution of patients

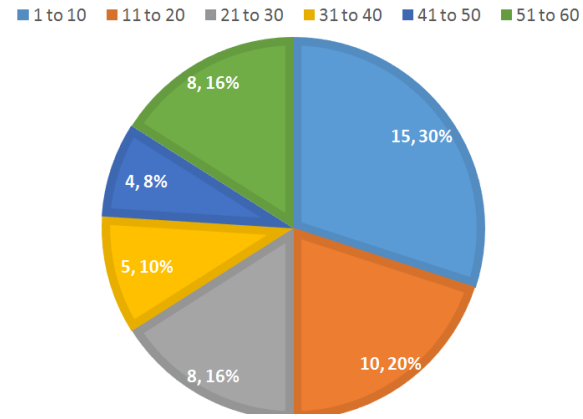

Figure No.2: Age distribution of patients

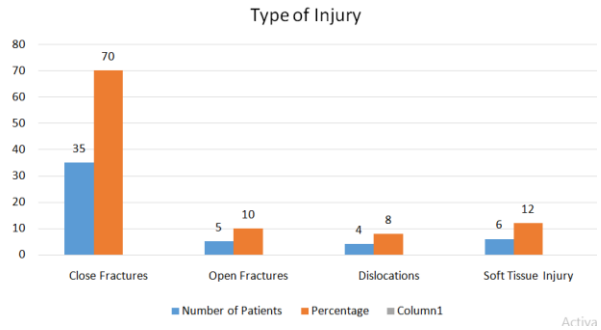

Figure No.3: Inquiry pattern

The minimum age of the patient was one year and the maximum age of the patient was 60 years. The common age group of the patients was first and second decade in this study. (Fig.No.2).

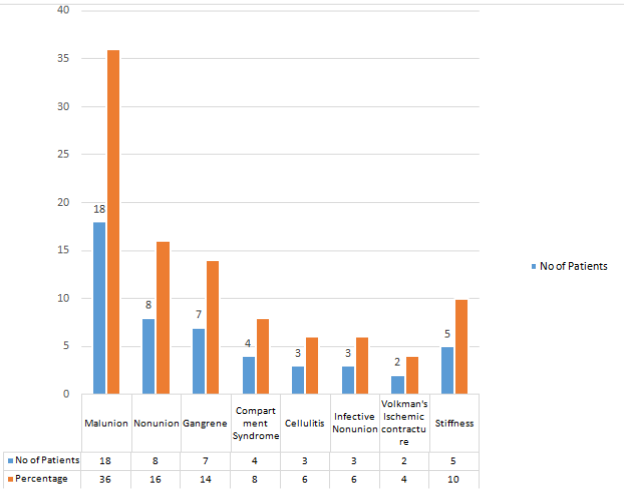

Figure No.4: Complications

Table No.1: Extremity involved (n=50)

Extremity involved	Number of patients	%age of patients
Upper limb bones & joints		
Diaphyseal fracture of humerus	05	10%
Supracondylar Fracture of humerus	10	20%
Fracture of Radius/Ulna Shafts	10	20%
Dislocation of Elbow Joint	02	4%
Fracture of Lateral condyle of humerus	01	2%
Fracture of Clavicle	02	4%
Lower limb bones & joints		
Diaphyseal fractures of Femur	08	16%
Diaphyseal fracture of Tibia	10	20%
Fracture and dislocation around Ankle joint	02	4%

Among 50 patients there were 35 close fractures, 5 open fractures, 4 dislocations and 6 were soft tissues injuries. (Fig.No.3)

Most of the patients had long bone fractures. In upper limb most frequently fractured bones were humerus and radius & ulna. Shaft of humerus fracture in 5 patients, radius & ulna shaft fracture in 10 patients, elbow dislocation in 2 patients, supracondylar humerus fracture in 10 patients, clavicle fracture in 2 patients and lateral condyle fracture of humerus in 1 patient. In lower limb femur fracture in 8 patients, tibia fracture in 10 patients and ankle fractures in 2 patients were recorded (Table 1).

The traditional bone setters treated their patients for varying period of time ranging from 3 days to 9 months, but average duration of treatment in this study was 3 months.

Complications including mal-union in 18 patients, non-union in 8 patients, gangrene in 7 patients, compartment syndrome in 4 patients, cellulitis in 3 patients, osteomyelitis in 3 patients, contracture in 2 patients and stiffness of joints in 5 patients. (Fig.No.4).

DISCUSSION

The goal of musculoskeletal injuries management by orthopedic surgeons is good anatomic approximation, satisfactory union of fracture and to achieve functional range of motion of injured limbs as close as possible to normal. In our setup traditional bone setting is well recognized and age long practice, they treat musculoskeletal injuries inadequately which results into various complications. This study has been compared with other studies regarding gender, age of the patients, injury pattern, extremity involved and complications. The results obtained in this study are comparable to those mentioned in the local and interventional literature.[4,6-8,10,15-17]

Our study showed that 68% of the male patients were managed by Traditional Bonesetter, while study by Imran K et al showed 73.3% of male patients.[8] The frequency of various Traditional Bonesetter complications had been found in our study. There were 36% of patients developed mal-union, 16% of patients developed non-union, 7% of patients developed gangrene, 6% of patients suffered from osteomyelitis, 4% of patients developed contracture and 10% of patients developed joint stiffness. In study done by Imran K et al revealed 51.7% of patients with mal-union, 31.7% of patients with non-union, 6.7% of patients with contracture and 6.7 of patients with gangrene needing amputation and 3.3% of patients with infections.[8] In 2001, Ola Olorum DA studied 36 patients that had been treated by Traditional Bonesetter. In his study complication rate was 83% and the most common were mal-union and non-union.[18] Another study done by FaheemAM et al on the complications of Traditional Bonesetter in which he observed 43% of patients with mal-union and non-union.[15]

Another study conducted by Aniekan UE et al stated in his study, the most frequent complications were non-union (36.47%) and mal-union (24.71%) and both were associated with shortening in 31.76%. [19]

Loa Thani stated in his study of 43% of patients developed mal-union, 15% of patients developed non-union, 17% of patients developed gangrene and 15% of patients developed stiffness.[6] Study done by Khan I et al showed 38% of patients with Mal-union, 26% of patients with non-union, 20% of patients with gangrene and 7% of patients with joint stiffness.[10]

Frequencies of complications are almost same in our series as compared with other studies.

CONCLUSION

From the above discussion, it is clear that the practice of traditional bone setters is a major source of orthopedic complications with resulting morbidities and same time mortalities. Awareness programs should be arranged in which people has to be informed about treatment deficiencies and complications of traditional bone setters. To avoid such complications, it is important that their patronization should be discouraged.

Author's Contribution:

Concept & Design of Study:	Zahoor Illahi Soomro
Drafting:	Allah Nawaz Abbasi
Data Analysis:	Karam Ali Shah, Kishore Kumar Khatri
Revisiting Critically:	Zahoor Illahi Soomro, Allah Nawaz Abbasi
Final Approval of version:	Zahoor Illahi Soomro

Conflict of Interest: The study has no conflict of interest to declare by any author.

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