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Research Article

Results of the distal radius fractures intervened initially by traditional bonesetters

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ABSTRACT

Background: Poor results of the fractures could be result of the intervention of the bone setters. The aim of this study was to analyze functional outcome of the patients intervened initially by a bonesetter.
Methods: 179 outpatients with distal radius fractures treated at emergency department of regional hospital of Durres from January 2014 to December 2014 were studied, divided in two groups; presented direct to the hospital (H) and intervened initially by a bonesetter (B). All patient demographics and social data were studied. Anatomic and functional results of the patient were estimated.
Results: 179 patients, 114 (63.9%) females with mean age 53.9 years. 115 (64.2%) lived in a rural area. 118 (65.9%) of patients came direct to hospital and 61 (34.1%) were intervened initially by a bonesetter. The mean time of the patients being present to emergency was 1.78±0.8 for group H and 23.6±13.1 for group B. The majority of the fractures are extra articular 108 (60.3%). We had excellent anatomic results in 16 (8.9%), good in 39 (21.8%), fair in 60 (33.5%) and poor in 64 (35.8%). Mean QuickDASH Scores for group H was 50±23 and 80±13 for group B, ($p<0.001$).
Conclusions: Poor functional results come from the distal radius fractures intervened initially by bonesetters. Patients education and dissemination of information about the trauma, trauma system and complication coming from inadequate treatment, will be effective in prevention of complications regarding bonesetter interventions.

Keywords: Distal radius fractures, Bonesetter

INTRODUCTION

Inadequate medical treatment by bonesetters may cause serious problems for the patients. Bonesetting is an alternative of treatment in many societies in developing countries especially in Africa, Asia but it continue to be evident in some areas in Balkan countries.[1,2]

It is not traditional in Albania, but consultation with a bonesetter continues to be reality.

Although most of the patients come directly to the hospital in case of any trauma, there are still people especially from rural areas who use to go to bonesetters.

An international group of experts of World Health Organization (WHO) reported on traditional treatment methods in a special issue in 1978.[3] Other authors found no significant problems after intervention for simple fractures, but many complications as a result of bonesetter interventions in more complexes fractures.[4-6]

METHODS

This study was conducted in Regional Hospital of Durres, Albania for a period of 12 months between January 2014 and December 2014. We included in our study all patients with fractures of distal radius treated conservatively with cast immobilization. Our patients

were divided in two groups, coming directly to the hospital (group H) or intervened initially by bonesetters (group B).

Patient demographic data were registered education's level, reasons for seeing a bonesetter. Time and distance from hospital was recorded. Anatomic and functional results were evaluated for all patients in a period of two months after treatment.

Anatomical results were evaluated through radiological imaging using Batra score system.[7] Functional results are evaluated through QuickDASH score.[8]

Mann-Whitney U test was used for statistical analyses. P<0.001 was considered statistically significant

RESULTS

179 patients with distal radius fractures were included in our study, 65 were male and 114 were female. Mean age of the patients was 53.9±17.01 years. Moreover, 124 patients were city residents, while 55 were from countryside.

101 fractures were left hand, 74 right and 2 both sides. 118 (65.9%) of patients came direct to hospital and 61 (34.1%) were intervened initially by a bonesetter. The mean time of the patients being present to Emergency was 1.78±0.8 for the patients coming directly and 23.6±13.1 for the patients being intervened initially by bonesetters. The majority of the fractures are extra articular 108 (60.3%) (Table 1).

We had excellent anatomic results in 16 (8.9%), good in 39 (21.8%), fair in 60 (33.5%) and poor in 64 (35.8%). (Table 2). Functional results, evaluated with QuickDash score correlate with anatomic results only with the group coming directly to the hospital (Table 3).

Most of the patients intervened initially by bonesetter have low education level 83.6% and lack information about health system totally (24.5%) or partially (75.5%). (Table 4).

Table 1: Fractures by type and time presented at the emergency.

Type of fracture	Number of patients coming direct to hospital	Time presented to emergency	Number of patients intervened initially by a bone setter	Time presented to emergency after being intervened by bonesetter (in hours)	Number of patients
A2	49	1.8±1	28	26.7±14	77
A3	20	1.75±0.6	11	16.3±6	31
B1	3	1.67±0.6	5	39.2±6	8
B2	5	1.6±0.5	3	25.3±2.3	8
B3	4	1	0	0	4
C1	6	1.3±0.5	3	20±6.9	9
C2	20	1.75±0.7	10	19.9±7.7	30
C3	11	2.37±0.9	1	12	12
Total	118 (65.9%)	1.78±0.8	61 (34.1%)	23.6±13.1	179

Table 2: Anatomic results using Batra scoring system.

	Anatomic results			
	Excellent	**Good**	**Fair**	**Poor**
Patients coming direct to hospital	10 (5.6%)	26 (14.5%)	38 (21.2%)	44 (24.7%)
Patients intervened initially by a bone setter	6 (3.3%)	13 (7.3%)	22 (12.3%)	20 (11.2%)
Total	16 (8.9%)	39 (21.8%)	60 (33.5%)	64 (35.8%)

Table 3: Mean QuickDASH scores (standard deviation) for each group.

	Patients coming direct to hospital		Patients intervened initially by a bone setter		Mann-Whitney U test
	No patients	**QuickDASH**	**No patients**	**QuickDASH**	
Excellent	(n10)	18.42±1.58	(n6)	62.8±21.4	p<0.001
Good	(n26)	29.0±7.55	(n13)	76.4±10.5	p<0.001
Fair	(n38)	41.0±5.0	(n22)	81.9±7.43	p<0.001
Poor	(n44)	76.6±5.8	(n20)	86.23±11.49	p<0.001

Table 4: Patients' level of education and information about health system.

	Number of patients coming direct to hospital	Number of patients intervened initially by a bone setter
Level of education		
Primary school	42 (35.6%)	51 (83.6%)
Secondary school	65 (55%)	10 (16.4%)
High school or University	11 (9.4%)	0
Level of information about health system		
No information at all	5 (4.2%)	15 (24.5%)
No information about orthopedic service	20 (17%)	20 (32.8%)
No information about orthopedics on duty	24 (20.3%)	26 (42.7%)
Informed about Health system	69 (58.5%)	0 (0%)
	118	61

DISCUSSION

Treatment by bonesetter is a reality in developing country that comes from the lack of specialist and coverage with medical care. Their treatment some time is incorrect and may be considered malpractice.

WHO's experts in their report on traditional treatment methods reported for very high risk of irreversible complications.[3]

In Albania a number of patients use to go initially to a bone setter and the reason for going there is complex. It is related to many factors.

Current study shows that one of the important factors for preferring the bonesetter is the opinion of family and friends. It was found that 98.3% of patients were forced by their grandparents and friends to go to the bonesetter. All the people going to bonesetters came from a low education level. The reason for going to them comes from the familiarity with bonesetter culture and lack of familiarity with modern centers especially for people coming from rural areas and societies which have had traditionally bone setters in their area.

Some time they are viewed as specialists for minor fractures. Some people fear of cast or the idea of being operated; putting irons in his bone.

Another reason that people prefer to go first to a bonesetter is also the easy accessibility.

Bonesetters may success in simple closed fractures, but not in the cases of compound fractures, intra articular or open fractures their intervention fails and the results could be poor.

Bonesetters are well-known especially for simple fractures, joint distortion and dislocation.

Anatomic reduction of fractures is not achieved by bonesetters and malunion is a reality in more than half of the fractures.[11]

In our study we had in control anatomic reduction. All the fractures intervened initially by bonesetters were recheck with X ray and all stable fractures were immobilized in correct way and all the unreduced fractures were reduced and reimmobilised.

We found big difference in functional results between two groups.

Mean QuickDash scores of the patients coming direct to the hospital is much better than the other group intervened initially by bonesetters.

Bonesetters have no medical training, they practice traditional methods passed down over generations.[9]

The bonesetters have their techniques to reduce fractures and to immobilize them. Most of them use to message the fracture site during reduction and use very constrictive dressing to keep the reduction.

These techniques may give chance to limb ischemia; promote edema of the limb which could be complicated with, joint stiffness, Volkmann's ischemia, Morbus Sudeck.[10,11]

In some cases, it could be fatal. Gangrene from bonesetter is reported.[12]

We found a correlation between functional results and time coming to emergency after being intervened by bonesetters. Earlier coming to emergency after bonesetter intervention better the functional results should be.

Bonesetters relate their skills to social, cultural, metaphysical, and religious principles especially in Africa.[13]

Treatment by bonesetters in Albania, is marginal, it is tradition in some areas of the country. Albanian patients choose bonesetters not because they believe that they possess some metaphysical or religious power as some other peoples do. Peoples prefer treatment by bonesetters rather than orthopedists especially for the facilities they offer and the lack of information about the possibilities that state hospitals offer. They live usually near their residence.

Peoples going to bonesetters come from rural areas, where a bonesetter has been traditionally.

In our study they are coming from areas in north and north east of Albania, areas which lack orthopedic service even nowadays. Most of them think that orthopedics do only surgery.

Most of the peoples from all areas are coming again in hospital for further treatment. They decide to go to hospital pushed from other people or from the distortion of symptoms.

CONCLUSION

Poor functional results come from the distal radius fractures intervened initially by bonesetters. Patients education and dissemination of information about the trauma, trauma system and complication coming from inadequate treatment, will be effective in prevention of complications regarding bonesetter interventions.

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