

Results of the Traditional Treatment of Fractures of Patients Discharged against Medical Advice from the Orthopedics Department of the Ouahigouya Regional University Hospital (Burkina Faso)

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Abstract

Introduction: Binding retains an important place in Africa. Leaving a health facility to see a bonesetter is common there, but a source of complications. The purpose of this work was to analyze the results obtained by bonesetter after discharge against medical advice. **Methodology:** Analytical cross-sectional study over a period of one year, including all patients admitted for limb fracture, discharged against medical advice for treatment with a bonesetter. **Results:** Thirty-nine patients were selected. The average age was 36.9 years, and the sex ratio was 5.50. The fractures were open in 35.9%. At a mean follow-up of 19 months, the course was marked by pain in 34.4% and inequality in limb length in 62.5%. Thirteen fractures (40.6%) were consolidated with axis defect, and 11 were without axis defect (34.4%). There were eight non-union (25%), and eleven patients (34.4%) presented with stiffness in one or more joints. Seven patients had died. **Discussion:** The problem of discharge against medical advice is found in all hospitals but is particularly marked for fractures in our context. The absence of an X-ray and ignorance of the rules of asepsis lead to complications. Only the fractures of the two bones of the leg had progressed well (5/8 good results). The rate of vicious calluses (40.6%) and non-union (25%) is high. **Conclusion:** Although a few cases have progressed favorably, the results of patients traditionally treated after discharge against medical advice are generally poor.

Keywords

Fractures, Bonesetter, Discharge against Medical Advice

1. Introduction

The traditional treatment of fractures, like traditional medicine, according to the WHO is based on the sum of knowledge, skills and practices based on theories, beliefs and experiences specific to different cultures, whether they are explainable or not [1]. Traditional medicine in traumatology (beading) retains an important place in African countries [2] [3] [4]. It is closely linked to the socio-cultural universe and is deeply rooted in the habits of society. The traditional techniques used are variable: massages of the fractured limb, massages of the healthy contralateral limb, with a drumstick that is broken beforehand, or even massages of a fractured chicken leg beforehand, all without touching the injured limb. Leaving a health facility to consult a bonesetter is common in our context, but is often a source of complications, this has been reported by several authors in several Africans and the Maghreb [5] [6] [7] [8] [9]. This work aims to analyze the results obtained by bonesetters in the traditional management of limb fractures in patients who were discharged against medical advice from the Orthopedics Department of the Ouahigouya Regional University Hospital.

2. Methodology

This was a cross-sectional study, for descriptive and analytical purposes, with the administration of a questionnaire to patients (if not their accompanying persons) released against medical advice between January 1 and December 31, 2019. The study population was represented by patients admitted during the study period for trauma to limbs and discharge against medical advice. Included were all those who left against medical advice and who consented to be part of the study or, failing that, their accompanying persons. Those who did not consent were excluded. Data collection was carried out using a questionnaire that was administered by telephone to patients (or their caregivers for deceased patients) and on the basis of clinical records, referral sheets and electronic files from the patient registration. The variables studied were epidemiological (frequency), socio-demographic (age, sex, socio-professional status), clinical (diagnosis at the entry, injured segment, length of stay in hospital, etc.), the reasons for discharge against medical advice (degree of satisfaction, reason for dissatisfaction, source of funding for treatment, reason for discharge, etc.), the recourse variables, namely type of care after discharge, reception structure, and finally the evolution data (follow-up, current state of health, clinical and radiographic examination data). The data was collected with respect for the confidentiality and anonymity of the patients, then entered and processed on a personal computer, using Excel files and Stata/MP 14.0 software.

3. Results

During the study period 319 patients were admitted to the surgery department for limb trauma and 103 patients were discharged against medical advice (32.3%). Sixty-four (64) patients were therefore excluded, including 22 who could not be reached by telephone (change of number?) and 42 who refused to participate for various reasons (live far away, do not have means of transport, say they are cured...). Thirty-nine patients (39) were selected for the study, including 32 living that were reviewed and examined, and seven relatives of deceased patients.

Age: The mean age of the patients was 36.9 years \pm 2.7 years. **Table 1** gives the distribution of patients by age group.

Discharge against medical advice mainly concern young people.

Gender: there were 33 men and 6 women, for a sex ratio of 5.5.

Profession: farmers (40%); gold miners (12.8%); housewives (10.3%); pupils 12.8%); civil servants (7.7%); traders (7.7%) and the unemployed (7.7%) were the socio-professional categories of patients released against medical advice.

Diagnosis: the diagnosis made during the hospitalization of patients before their discharge against medical advice is shown in **Table 2**. Femoral and leg fractures were the most affected.

Table 1. Distribution of discharge against medical advice patients by age group (n = 39).

Age group	Number	Percentage
[16 - 30 years]	15	38.46
[31 - 45 years]	13	33.33
[46 - 60 years]	10	25.64
≥ 61 years	1	2.57
Total	39	100.00

Table 2. Diagnoses retained during hospitalization (n = 39).

Diagnosis	Number	Percentage
Joint fracture of the lower end of the radius	1	2.56
Bimalleolar fracture	2	5.13
Collarbone fracture	1	2.56
Femoral shaft fracture	11	28.21
Fracture of the 2 bones of the forearm	2	5.13
Fracture of the 2 bones of the leg	9	23.08
Isolated fracture of the tibia	6	15.38
Petrochanteric fracture	1	2.56
Supracondylar fracture of the femur	2	5.13
Floating knee	4	10.26
Total	39	100.00

The fractures were opened in 14 cases (35.9%) and closed in 25 cases (64.1%). The open fractures were type 1 of Gustilo and Anderson in four cases (28.6%); type 2 in six cases (42.8%), type 3A in two cases (14.3%) and type 3B in two cases (14.29%).

The average length of stay before discharge against medical advice was 4.02 days \pm 0.74 days with extremes of 1 and 32 days. The reasons put forward to justify leaving against advice were, among others, confidence in traditional medicine in 38.3% of cases, lack of financial means to pay for care in 25% of cases, and the influence of the family in 20% of cases. The rest was represented by the multiple postponements of the surgical intervention, and the desire to seek treatment in a private clinic.

Evolution: after discharge from the hospital and stay with the bonesetters, the result was as shown in **Figure 1**.

The cause of death could not be specified.

Results of the clinical examination: these concern the 32 patients who agreed to come back for examination. The mean follow-up was 19.2 months (range of 13.5 months days and 26 months).

Pain was found in 11 patients (34.4%). Twenty patients (62.5%) presented unequal limb length with lameness when walking. The average of the inequality was 1.5 cm with extremes of one and six centimeters. Fractures were consolidated in 24 cases (75%). Nonunion was noted in eight cases (25%). On one or more joints of the affected limb, stiffness was noted in 11 patients (34.4%), including the knee in eight cases, the ankle in one case and the hip in one case.

X-ray workup: on X-ray, 13 fractures (40.6%) were consolidated with an axis defect (**Figure 1** and **Figure 2**); 11 consolidated fractures without axis defect (34.4%) and eight non-union (25%). **Table 3** gives the results of the radiology according to the diagnosis.

Axis defects (**Figure 2** and **Figure 3**) consisted of a valgus in the forearm; three varus, two recurvatum and two varus at the level of the femur; at the level of the floating knees a recurvatum at the femur and a flexum at the tibia in one

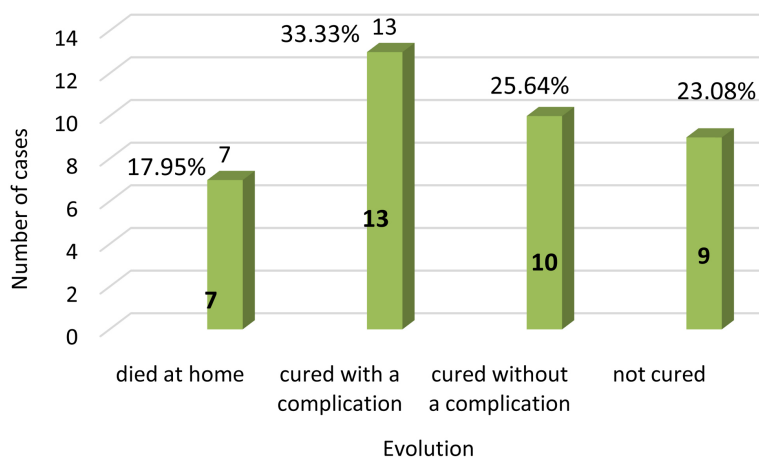


Figure 1. Evolution of fractured patients after discharge.



Figure 2. X-ray of the right femur from the front and in profile showing a vicious callus with defect in the axis, and declared healed by the bonesetter.



Figure 3. Front and profile x-ray of a patient declared cured by the bonesetter.

case and a flexum at the femur and a recurvatum at the tibia in one case; at the level of the tibia, a flexum in three cases. In addition, two cases of osteitis were reported following open fractures. Patients with non-union have been operated with good results. On the other hand, those who had consolidated with an axis defect declined the proposal for a corrective osteotomy, considering themselves valid.

Table 3. Radiological evolution after traditional treatment.

Initial diagnosis	Radiological result			Total
	Consolidated fracture with axis defect	Consolidated fracture without axis defect	Pseudarthrosis	
Radius joint fracture	0	1	0	1
Bimalleolar fracture	0	1	1	2
Collarbone fracture	0	0	1	1
Femoral shaft fracture	3	1	4	8
Fracture of the 2 bones of the forearm	1	0	0	1
Fracture of the 2 bones of the leg	3	5	0	8
Isolated fracture of the tibia	4	2	0	6
Pertrochanteric fracture	0	0	1	1
Supracondylar fracture	0	1	1	2
Floating knee	2	0	0	2
Total	13	11	8	32

4. Discussion

During our study, we were faced with some difficulties regarding data collection. These difficulties were linked to the insufficiency in the archiving of medical files, the lack of completeness of certain medical files, the telephone numbers on the medical files not corresponding to the patients during the telephone calls, and the refusal of certain patients for the study. This situation led us to exclude a lot of files.

Despite these limitations and constraints, we have achieved results that call for some comment.

The problem of discharge against medical advice is found in all hospitals around the world [10]-[15], but in our context it is particularly pronounced with regard to fractures. In one year, 32.3% of patients admitted to our department for broken limbs were discharged against medical advice. This rate reached 40% for DA Ola Olorun in Nigeria [9]. Traditional medicine coexists with modern medicine in most developing countries. And according to the WHO, 80% of the rural populations in these countries depend on traditional medicine for their health care [1]. The idea is widely held there that bonesetter have spectacular and faster healing powers of fractures than modern medicine. This belief is the first cause of discharge against medical advice or first resort to bonesetter (38.3% in our study). The same observation was made in Nigeria by Babatunde [16] in 2001 who reported that 85% of patients admitted to orthopedic services had previously consulted a traditional practitioner.

The sex ratio (5.5), the mean age of the patients (37 ± 2.7 years), the predo-

minant age group (16 to 45 years), and the socio-professional categories concerned reflect the epidemiological data of trauma in Africa [2] [5] [6] [7] [8] [16] [17].

The reasons for leaving are various, but two are predominant. The first is confidence in traditional treatment, and the second is lack or insufficient financial means. In fact, there is no social security system for the care of patients and the care must be paid for by the person concerned and/or by his family. This has been reported by several authors [7] [10] [16].

Clinically, all limb segments and all types of fractures were concerned: diaphyseal or metaphyseal-epiphyseal fractures, simple or complex, open (35.9% including 28.6% of types 3 A and B of de Gustilo and Anderson) or closed (femoral shaft and tibial shaft 28.21%; shaft of both leg bones 23.08%; floating knee 10.26%, bimalleolar fracture 5.13%). This diversity of clinical pictures has been described by other African authors

The treatment of a fracture in a hospital setting aims to obtain the most anatomical reduction possible, consolidation and restoration of limb function. The reduction is obtained by reproducing the opposite of the observed displacements. The bonesetter does not have an X-ray and therefore cannot specify the movements. However, there are more and more bonesetters who are asking for an X-ray before starting their treatment, although they do not always know how to read them correctly. Only the fractures of the two bones of the leg treated by the bonesetter after discharge against medical advice had progressed well (5 good results out of 8 cases). This is not surprising because leg fractures are superficial, easy to reduce, and well contained, consolidation is usual, but at the cost of a long period of immobilization with stiffness of the surrounding joints. These acceptable results cannot be generalized because they only concern patients discharged against medical advice and having secondarily consulted with the bonesetter. Because many others (who were not taken into account) are seen in trauma departments at the stage of complications after going to the bonesetter [5] [6] [7] [8] [9] [16], the rate of vicious calluses with axis defects (40.6%), and non-union (25%), is very high as reported by other authors. For DA Ola Olorun [9], this rate reached 83%.

5. Conclusion

Although a few cases have progressed favorably, the results of patients traditionally treated after discharge against medical advice are generally poor. This implies a surgical revision, hence an increase in costs and an extension of the duration of the disabled. The socio-economic cost is not negligible and awareness-raising followed by training of bonesetter could improve the situation.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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