



ISSN : 2350-0743

www.ijramr.com



International Journal of Recent Advances in Multidisciplinary Research

Vol. 07, Issue 01, pp. 5453-5457, January, 2020

RESEARCH ARTICLE

REFLECTION ON TRADITIONAL TREATMENTS OF MEMBERS 'FRACTURES: ABOUT 92 CASES RECORDED AT THE BANGUI COMMUNITY UNIVERSITY HOSPITAL CENTER, CENTRAL AFRICAN REPUBLIC.

¹Issa Mapouka Pierre Alfred, ²Ndoma Ngatchoukpo Valère, ³Garoua Adjou Irène, ⁴Nabia Don Rodrigue, ^{5,*}Doui Doumouba Antoine and ⁶Tékpa Bertrand Jean de Dieu

¹Chirurgien, Service de Traumatologie-Orthopédie, Centre Hospitalier Universitaire Communautaire de Bangui

²Chirurgien pédiatre, Service de Chirurgie pédiatrique, Centre National Hospitalier Universitaire de Bangui, RCA

³Médecin généraliste, Service de Traumatologie-Orthopédie, Centre Hospitalier Universitaire Communautaire de Bangui RCA

⁴Médecin généraliste, Service de Traumatologie –Orthopédie, Centre Hospitalier Universitaire Communautaire de Bangui RCA

⁵Maître de Conférences Agrégé de Chirurgie générale. Service des Urgences Chirurgicales ; Centre Hospitalier Universitaire de l'Amitié Sino-centrafricaine, Bangui RCA

⁶Maître de conférences Agrégé de Traumatologie-Orthopédie, Service d'orthopédie-Traumatologie, Centre Hospitalier Universitaire Communautaire de Bangui RCA

ARTICLE INFO

Article History:

Received 20th October, 2019

Received in revised form

19th November, 2019

Accepted 15th December, 2019

Published online 30th January, 2020

Keywords:

Limb Fracture, Treatment, Traditional Healer, Complications, Central African Republic.

ABSTRACT

Objective: To describe the complications observed in patients suffering from a limb fracture treated by a traditional method at home before being admitted to hospital. **Patients and Method:** This was a prospective descriptive study, carried out in the orthopedic-trauma department of the CHU Communautaire of Bangui from January 1 to December 31, 2015. Patients included in the follow-up department had Limb fractures treated by the traditional method and presenting a complication. These patients should indicate their consent and provide information on the traditional treatment received. Those who had undergone mixed treatment, those who were not consenting and those who presented no complications were excluded. The study was conducted during consultations, and hospitalization. Each patient included was asked about the traditional product used, the stages in the treatment of the fracture. A survey form was used to collect the data and included variables such as age, sex, profession, provenance, fracture, type of fracture, product used, reasons for this choice, method used, duration of treatment and course of treatment. The data collected was analyzed using the Epi info 2012 software. **Results:** The mean age of the patients was 45.4 years (range 14 and 73 years). Male subjects made up 75% of the sample. The Sex ratio was 3. According to the profession, the farmers were the most numerous with a proportion of 22.8%. In 58.7% of the cases, the injured came from within the country. The average consultation time was 4 months. Fractures were common in the leg (32.6%), the femur (27.2%) and the humerus (16.3%). Most fractures (79.3%) were closed. The traditional means used were mainly vegetable leaves (31.5%), tree bark (17.4%) and wild onions (9.8%). These products were used in 62% of cases by application to the fracture site followed by a bandage. In 66.3% of the cases, the fractures were not reduced before treatment and not immobilized in 57.6% of the cases. In the 42.4% of cases the fractures were immobilized and, the immobilization materials were pieces of wood (17.4%), braided Chinese bamboo (16.3%) and bark of wood (8, 7%). The products were renewed every 5 to 7 days in 75% of the cases. Vicious calluses (31.3%), non-union (25.2%) and joint stiffness (14%) were the main complications. Confidence (55.4%) motivated the choice of this treatment. **Conclusion:** The traditional treatment of fractures is a common practice in our country. Our study found a high frequency of complications due to ignorance of the principles of fracture treatment by traditional healers. The identification, training and awareness of these traditional healers about their limits, the implementation of a collaboration mechanism with modern medicine are strategies to be developed in order to reduce the rate of these complications.

*Corresponding author:

INTRODUCTION

The traditional treatment of disease and trauma around the world existed long before the introduction of modern medicine (Mathieu et al., 2014).

Around 80% of people in developing countries depend on traditional medicine for their health needs (OMS, 2001). In Sub-Saharan Africa, the traditional treatment of fractures is a common and widespread practice in the countryside and the cities (Tékpa et al., 2003).

In Mali, where there is one doctor for 15,800 inhabitants, it is certain that the vast majority of the population still uses the resources of traditional medicine to solve health problems (Onuminya, 1999). In Nigeria, more than 70% of the rural population use traditional healers to treat fractures. In the majority of West African countries, the practice of traditional medicine is regulated and there is collaboration between traditional and modern medicine (Diakit   et al., 2004). In the Central African Republic, traditional medicine is widely practiced. However, few studies have been conducted on the traditional treatment of limb fractures. The aim of this study was to report the complications observed following traditional limb fracture treatments.

PATIENTS AND METHODS

It was a prospective descriptive study, carried out in the orthopedic-trauma service of the CHU Communautaire of Bangui from January 1 to December 31, 2015. Included were patients received at the service level following fractures of their limbs treated in the traditional way and presenting a complication. These patients should indicate their consent and provide information on the traditional treatment received.

Those who had undergone mixed treatment, those who were not consenting and those who presented no complications were excluded. The study was conducted during consultations, and during hospitalization. Each patient was asked about the traditional product used, the stages of treatment for the fracture. A survey form was used to collect the data and included variables such as age, sex, profession, provenance, fracture, type of fracture, product used, method used and duration of treatment. , the complications and the reasons for this choice. The data collected was entered and analyzed using the Epi info 2012 software.

RESULTS

Socio-demographic aspects: During the study period, 742 patients consulted for limb fractures, of which 152 patients presented complications following traditional treatment, ie 20.5%. We included a total of 92 patients (12.4%) meeting the selection criteria for our study. The average age of the patients was 45.4 years (range 14 and 73 years). The male sex had predominated with 75% of the cases (Sex ratio = 3). According to socio-professional category, the farmers were more numerous than the others. However, there is a significant proportion of the unemployed (Table 1).

Clinical aspects: The fractures were closed in 79.3% of the cases and open in 20.7% of the cases. The location of the fractures is presented in detail in the Table 2. Before application of the traditional product, the fracture was reduced in 31 patients (33.7%). In contrast, the fracture was not reduced in 61 (66.3%). In 39 cases (42.4%).The products used for traditional treatment are reported in the Table 3.

Depending on the case, traditional products were applied to the fracture site in the rough or crushed state followed by a bandage (62%), the fracture site could also be tied by a rope (15.2%), a braided bark (10.9%). The product could be used in scarification (6.5%) or massage (5.4%) on the fracture site.

Table 1. Socio-professional category of patients with traditionally treated limb fracture

Socio-professional categories	Effectif	Pourcentage
Farmer	21	22,8%
Unemployed	14	15,2%
Trader	12	13,0%
Housewives	10	11,0%
Official	9	9,8%
Worker	7	7,6%
Pupil / Student	5	5,4%
Driver	3	3,3%
Male nurse	3	2,2%
Breeder	2	2,2%
Religious	2	2,2%
Notable	2	2,2%
Military	1	1,0%
Sinner	1	1,0%
Total	92	100,0 %

Table 2. Locations of fractures treated by traditional medicine

Location of fractures	Nombre	Pourcentage
Two leg bones	30	32,6%
Femur	25	27,2%
Humerus	15	16,3%
Patella	7	7,6%
Isolated shin	5	5,4%
Two forearm bones	5	5,4%
Two malleoli	3	3,3%
Isolated Radius	2	2,2%
Total	92	100,0%

Table 3. Products used for the traditional treatment of fractures

Productsused	Nombre	Pourcentage
VegeTable leaves	29	31,5%
Unspecified	16	17,4%
Tree bark	16	17,4%
Wild onions	9	9,8%
Roots	7	7,6%
Wild tarots	7	7,6%
Wild yams	3	3,2%
Creepers	2	2,2%
Herbs	1	1,1%
Ostrich oil	1	1,1%
Shea oil	1	1,1%
Total	92	100,0%

Table 4. Reasons behind the choice of traditional treatment

Reason for choosing traditional treatment	Number	Percent
Trust in the healer	51	55,4%
Lack of financial means	16	17,4%
Ignoring	11	12%
Family decision	8	8,7%
Lack of transportation	3	3,3%
Distance from health facilities	2	2,2%
Customary practice	1	1,0%
Total	92	100,0%

Table 5. Distribution of patients according to the complications observed after traditional limb fracture treatments

Complications	Number	Percent
Vicious callus	41	38,3%
Nonunion	27	25,2%
Joint stiffness	15	14%
Osteitis	10	9,3%
Gangrene	7	6,5%
Atrophy	3	2,8%
Consolidation delay	2	1,9%
Paralysis of radial nerve	1	1,0%
Local suppuration	1	1,0%
Total	107	100,0%



Figure 1. Open fracture of the leg treated by applying leaves to the fracture site



Figure 2. Radiography of the pelvis showing a vicious callus at angulation of the trochanteric mass in a patient seen 6 months after the traditional scarification treatment

After the application of the traditional product, 33.4% of the fractures were immobilized against 53 cases (57.6%) not immobilized. For the immobilization of fractures, the means of restraint used were pieces of wood in 16 cases (17.4%), Chinese bamboo braided in 15 cases (16.3%) and bark of wood in 8 cases (8.7%) some of which were at the same time the traditional drug product. In 69 patients (75%), the product was renewed every 5 to 7 days while in 23 patients (25%), it was not renewed. The reasons that motivated the choice of traditional treatment are mainly, the trust placed in the traditional healer and the lack of financial means to access modern fracture care. Complications noted on admission were vicious calluses (56.1%) and non-union (32.1%) especially when the fractures were closed. In contrast, osteitis (30.7%) and gangrene (26.3%) were common in open fractures ($p = 0.00$).

When the fractures were reduced, the proportions of vicious calluses (34.8%) were greater than when the fracture had not been reduced (27.0%). The same is true for non-union, 38.5% versus 24.3% respectively ($p = 0.609$). Similarly, when the fractures were immobilized, the vicious calluses represented 31.75% of the cases and nonunion 47.42% of the cases against 25.4% and 25% for the vicious calluses and nonunion respectively in the non-immobilized fractures ($p = 0.755$).

DISCUSSION

The average age of our patients was 43.4 years. It corroborates the series of Ashok et al (6) in India and Amupitan et al. (2015) in Nigeria who found an average age of 48.6 and 45.78 years respectively. The CHU Communautaire is an adult hospital, which explains this average age that we found. The male sex had predominated with 75% of the cases. This frequency agrees with the series of Tékpa et al. (2003) in Senegal which found 90.47% of the cases. The male predominance found is a classic datum of trauma, men being more active in movement and daily activities. Most of the socio-professional categories were represented with a dominance of cultivators (22.8%) followed by traders (13%) and housewives (11%) and 58.7% of the patients came from the interior of the country. Diakité et al. (2004) in Mali had found in their series these various classes proportions with varied and the high frequency of patients from the hinterland was also found by some authors (Zehir, 2015; Bickler, 2000; Myderrizi, 2016). In our country in general and in rural areas in particular, the traditional treatment of fractures is reputed to be very effective; which leads most patients to resort to it and only consult health facilities if this treatment fails. We observed that the fractures of the leg had dominated (32.6%) followed by those of the femur (27.2%) and the humerus (12%) while in the series of Da et al. (2001) at Nigeria, fractures of the femur, the tibia and the humerus had dominated with a frequency of 25%, 22% and 19.44% of the cases respectively. Despite the diversity of the location of the fractures, it was in our series of injuries, the majority of which were passengers in motorcycle taxis or in freight vehicles who had no protective measures. Closed fractures represented 79.3% of the cases. This frequency can be superimposed with the series by Da (2001) and Souna et al. (2010) in Niger which found 83% and 84.3% of the cases. We can explain this by the fact that traditional healers are more willing to treat closed fractures than open fractures.

Therapeutically, the most used products were plant leaves (31.5%) followed by tree bark (17.4%), wild onions (9.8%). Onuminya (1999) and Marcel et al (Aries, 2007) in Ghana reported that the products used were banana and palm leaves and plants in the series of Nwachukwu et al (14) in Nigeria. The products that traditional healers use vary from country to country, but also from one healer to another. In addition, our traditional healers keep the names of their products secret so as not to lose their reputation and their clientele; which did not allow patients to give us the names of certain products used. The application of the raw or crushed product on the fracture site maintained by a bandage was the most used practice in our patients (62%). This practice was reported in the series of many authors (Diakité et al., 2004; Ashok, 2011; Aries, 2007). Traditional therapists had explained this method by the direct effect that the product would have on the fracture. In our series, the majority of fractures (66.3%) were not reduced before the product was applied.

On the other hand, Omololu (2008) and Onuminya (1999) had explained in their series that the fractures were reduced blindly, without anesthesia by the bone repairer, by being helped by his apprentice or a relative of the injured man before the product application. Among the 92 patients, 39 (42.4%) said that their fractures were immobilized and the means of immobilization were pieces of wood (17.4%), braided Chinese bamboo (16.3%) and wood bark (16.3%). In the Omololu series (Omololu et al., 2008), raffia and palm branches were the means of immobilization used. The ignorance of the principles of treatment of a fracture by our traditional therapists justifies the non-immobilization of fractures. In 75% of fractures, the products were renewed between 5 and 7 days. This practice was also reported by Marcel (Aries et al., 2007) and Omololu (2008); in their series, products every 3 to 5 days. The patients had explained that, according to the healer, the purpose of renewing the products was to renew their active ingredient; which is at the origin of the constant mobilization of the foci of fractures with each gesture from where the high frequency of the pseudarthroses observed. Our patients had consulted within an average of 4.2 months. This period is shorter than that of the Sidibé (Sidibe, 2002) series in Mali and the Souna (2010) series in Niger, whose patients were received at 8 and 8.5 months from traditional treatment. We can explain it by the fact that some patients who noticed rather the failure of this treatment, had turned to modern medicine while others, hoping for a hypothetical cure, had consulted late. We noted that the vicious calluses had dominated the complications with 38.3% of the cases followed by non-union (25.2%), joint stiffness (14%), osteitis (9.3%) and gangrene (6, 5%). These complications were observed in the series of Da (2001) and Mathieu (2014) who recorded respectively 58.35 and 47% of cases of vicious calluses, 25% and 32% cases of non-union while Babatunde et al. (2015) in Nigeria noted 53.3% pseudarthrosis and 4.4% gangrene.

In the series of Tékpa (2003), Bickler (2016) and Garba et al. (1998) in Nigeria, gangrene was the main complication with a respective frequency of 90.5%, 89% and 63.2% of the cases. The high frequency of these complications in our study is justified by the non-reduction and immobilization of fractures, the periodic renewal of products as well as the management of open fractures and tight immobilizations. Regarding the reasons for choosing the traditional treatment, 55.4% of the patients explained that they trusted this medicine, 17.4% mentioned the lack of financial means and 12% out of ignorance. The family decision (8.7%) had also influenced this choice as found in the series of Tékpa (Tékpa et al., 2003) whose patients who were between 5 and 15 years old had no decision-making power. In contrast, in the series by Dada et al. (2009) in Nigeria and Odusen, (2006), patients had justified this choice by poverty, ignorance and superstitious beliefs. In our Central African context, the use of modern medicine for the treatment of fractures is still difficult to convince certain patients in both urban and rural areas because of beliefs and customs, even among intellectual patients.

Conclusion

The traditional treatment of fractures is a common practice in our country. Our study, although limited to the single referral service, found a high frequency of complications due to ignorance of the principles of fracture treatment by traditional therapists. A nationwide study would assess the results of this practice since most of the patients were from the hinterland.

The organization, training and awareness of traditional healers about their limits and collaboration with modern medicine could help reduce these complications.

REFERENCES

- Amupitan I., Onche II., Ode MB. 2015. The impact of traditional bone setters on operative management of femoral fracture in Jos North Central Nigeria. *J Dent Med Sci.*, 14(6):06-09.
- Aries MJH, Joosten H, Wegddam HHJ, Van Der Geest S. Fracture treatment by bonesetters in central Ghana: patients explain their choices and experiences. *Trop Med and Int Health* 2007;12(4) :564-574.
- Ashok KP., Rout S. 2011. Putter kattu (bandage)-A traditional bone setters practice in South India. *J Ayurveda Intreg Med.*, 2(4):174-178.
- Babatunde YM., Popoola SO., Oluwadiya KS, Ogunlusi JD, Ige OE. 2015. Management of complications of age-long tradition presented at Ado Exiti, Southwest Nigeria. *Afr J Trauma.*, 4(1) :16-20.
- Bickler SW., Duanda BS. 2000. Bonesetter's gangrene. *J PedSurg, Banjul.*, 35(10):1431-1433.
- Da Ola Olorun, Oladiran IO, Adeniran A. 2001. Complications of fracture treatment by traditional bonesetters in South West Nigeria. *Family Practise.*, 18:635-637.
- Dada A, Giwa SO, Yinusa W, Ugbeye M, Gbadegesin S. 2009. Complications of musculoskeletal injuries by bonesetters. *West Afr J Med Nigeria.*, 28:43-47.
- Diakit  C., Mounkoro PP., Dougnon A., Bociani M., Giani S. 2004. Etude de la traumatologie traditionnelle en pays Dogon (Mali). *Mali medical* 19(3):13-19.
- Garba ES, Deshi PJ. 1998. Traditional bonesetter : a risk factor in limb amputation. *East Afr Med J Nigeria.*, 75(9):553-5.
- Mathieu L., Bertani A, Chaudrier P, Charpail C, Rongieras F, Chauvin F. 2014. Management of traditional bone setting for upper extremity fracture. The experiences of a french forward surgical team in Chad. *In Chirurgie de la main.*, 33:137-143.
- Myderrizi N. 2016. Result of distal radius fractures intervened initially by traditional bonesetters. *Int J Res Med Sci.*, 4(5):1419-1422.
- Nwachukwu BU., Okwesili I, Kechukwu C., Harris Mitchel B., Katz JN. 2005. Traditional bonesetters and contemporary orthopedic fracture care in a developing nation: historical aspects, contemporary status and future direction. *The open Orthop J Nigeria.*, 20-25.
- Omololu AB, Ogunlade SO, Gopaldassani VK. 2008. The practice of traditional bonesetting : training algorithm. *Clin Orthop Relat Res Nigeria.*, 466(10):2392-8.
- OMS, 2001. Bureau r gional pour l'Afrique. Promotion du r le de la m decine traditionnelle dans le syst me de sant . In Strat gie de la r gion africaine, Harar  (Zimbabwe).
- Onuminya JE, Onabwale BO, Obekpa PO, Ihezue CH. 1999. Traditional bone setter's gangrene. *International Orthopedics (SICOT) Nigeria.*, 23 :111-112.
- Sidibe S, Coulibaly T, Thiam SM, Maiga AK, Keita FM. 2002. R sultats fonctionnels de la prise en charge en milieu traumatologique des cals vicieux de la diaphyse f morale au Mali. *Pan Arab J Orthop Trauma.*, 6(2):6-12.
- Souna BS., Mamadou A., Guida S. 2010. Les cals vicieux diaphysaires du f mur. A propos de 32 cas collig s   Niamey. *Mali med.*, 25(4) :7-10.
- T kpa JDB., Ngongang OGF., Keita K., Alumati D., Sane A, Di m  C. et al., 2003. Gangr ne de membre   la suite d'un

- traitement traditionnel par attelle de bambou chez l'enfant à l'hôpital régional de Kaolack (Sénégal). *Bull Soc Pathol Exot.*, 106:100-1003.
- Udosen AM, Otei OO, Onuba O. 2006. Role of traditional bone setters in Africa: experiences in Calabar, Nigeria. *Ann Afr Med.*, 5(4) :170-173.
- Zehir S., Zehir R., Sahin E., Akagul T, Zehir S, Subasi M. 2015. Bone setter interventions and consequences. *Acta Orthop Traumatol Turc.*, 49(4) :416-420.
