Content available at: https://www.ipinnovative.com/open-access-journals

IP International Journal of Forensic Medicine and Toxicological Sciences

Journal homepage: http://www.ijfmts.com/

Original Research Article

Discharge against medical advice (DAMA) in patients with long bone fractures at YEC: Epidemiological, clinical, evolutionary and medico-legal aspects

Gilbert Frank Olivier Ngongang[1]*, Fonkoue Loic[2], Ndoye El Hadj Oumar[3], Arabo Saidou[4], Mefo NONO Annick[3], Namoudou Conde[5], Soumah Mahamed[3], Bahebeck Jean[2]

[1]*Dept. of Morphological Sciences, Faculty of Medicine and Biomedical Sciences - University of Yaoundé I, Yaounde, Cameroon*
[2]*Dept. of Surgery and Specialities, Faculty of Medicine and Biomedical Sciences - University of Yaoundé I, Yaounde, Cameroon*
[3]*Faculty of Medicine, Pharmacy and Odontostomatology. Cheikh Anta Diop University (Dakar-Senegal), Senegal*
[4]*University of Garoua, Garoua, Cameroon*
[5]*Ignace Deen Hospital, Conakry, Guinea*

ARTICLE INFO

Article history:
Received 31-03-2024
Accepted 11-04-2024
Available online xx xx xxxx

Keywords:
Discharge against medical advice
Long bone fracture
Epidemiology
Clinic
Evolution
Medico-legal

ABSTRACT

Introduction: Discharge against medical advice (DAMA) is a term used in healthcare establishments when a patient leaves a hospital against the advice of their doctor.
The aim of this study was to describe the epidemiological, clinical, evolutionary and medico-legal aspects of patients with long bone fractures discharged against medical advice at the Yaoundé Emergency Centre (YEC).
Materials and Methods: This was a retrospective descriptive and analytical study conducted between January 2016 and December 2022 at the YEC. All patients aged 18 years or older with at least one long bone fracture and discharged against medical advice from our study site during the study period were included. Patients were then contacted to collect the reasons for DAMA, the therapeutic itinerary, the type of treatment undertaken, direct costs, and evolutionary data. Statistical analyses were performed using SPSS version 26 software.
Results: Six hundred and forty-seven patients were enrolled during the study period, representing a prevalence of DAMA of 45.7%. The mean age of the patients was 35.47 (± 13.86) years, and 475 (73.4%) were men. Socioeconomic status was low in 72.4% of cases. All religions and ethnic groups were represented. Road traffic accidents (RTA) were the cause of trauma in 83% of cases. The main site of injury was the tibia, in 253 (39.1%) cases. Open fractures accounted for 38.8% of cases. The median time to discharge against medical advice was 16 [1–4] hours, with 73.4% of DAMA within 24 hours. Lack of financial resources, the choice of traditional treatment and the preference for another hospital were the three main reasons.
Conclusion: In our setting, 45.7% of patients with long bone fractures initially admitted to hospital were discharged against medical advice. The type of injury was varied, with 38.8% open fractures, some of which were complex.

1. Introduction

Fractures of the long bones are becoming more and more frequent in our environment because of the increase in traffic accidents and the invasion of our streets by motorised

* *Corresponding author.*
E-mail address: bantouboy@gmail.com (G. F. O. Ngongang).

https://doi.org/10.18231/j.ijfmts.2024.003

vehicles.[5] Some accident victims admitted to a health facility do not continue their treatment and are discharged against medical advice.

1.1. Number of studies agree that this phenomenon mainly affects patients with broken bones[6–9]

DAMA is therefore a major trauma and public health problem that is neither recent nor specific to Africa.[6]

The aim of this study was to describe the epidemiological, clinical, evolutionary and medico-legal aspects of patients with long bone fractures discharged against medical advice from the Yaoundé Emergency Centre (YEC).

2. Materials and Methods

We conducted a retrospective, descriptive and analytical study. It was carried out at YEC from June 2016 to December 2022. Data collection was carried out from October 2022 to June 2023. All patients aged 18 or over with at least one long bone fracture (humerus, radius, ulna, femur, tibia, fibula) discharged against medical advice from our study site during the study period were included in the study. Patients discharged against medical advice after receiving definitive fracture treatment and those who did not give consent were not included.

Socio-demographic and radio-clinical data were collected by examining admission registers from the main care area, trauma department, inpatient department and medical records. Patients were then contacted by telephone to collect the reasons for DAMA, the therapeutic itinerary, the type of treatment undertaken, direct costs, and evolutionary and medicolegal data.

Statistical analyses were performed using SPSS software (Statistical Package for Social Sciences) version 26. The significance level was set at 5%.

3. Results

From January 2016 to December 2022, we identified 647 patients with long bone fractures who were discharged against medical advice for a total of 1415 fractured patients, a rate of 45.7%.

Of these patients,4 of whom had received hospital treatment at the YEC, 5 of whom had not suffered any fractures and 10 of whom refused to take part in the study.

1. **Socio-demographic data:** The mean age of the patients was 35.4 (±13.8) years with extremes ranging from 18 to 91 years. The most common age group was 20 to 40 years. Four hundred and seventy-five (73.4%) patients were male, while 172 (26.6%) were female, giving a male/female sex ratio of 2:76. The Catholic religion was the most represented with 275 (42.5%) patients. The patients were mainly from the Centre and West regions. Each of the two regions had 216 (33.3%) patients. According to the WHO (World Health Organization) classification of occupations, 339 (52.4%) were in elementary occupations (mototaxi mens, shopkeepers).
2. **Etiopathogeny :** Road traffic accidents (RTA) were the cause of trauma in 537 (83%) cases, followed by accidents at work in 49 (7.5%) cases. They were dominated by car-motorcycle collisions with 337 (52.1%) cases.
3. **Clinical:** The fracture involved a single long bone in 320 (49.4%) cases, and 70 (10.8%) were polytrauma victims. Among the associated lesions, trauma was present in 44 patients. In our series, 253 (39.1%) fractures were on the tibia. Fractures were open in 251 (38.8%) cases. Of the 251 open fractures for which the Gustilo-Anderson classification was mentioned in the medical records, type II was the most frequent, occurring in 86 (34.2%) patients. The fracture site was diaphyseal and the line was simple in 395 (61%) and 359 (55.5%) cases respectively.
4. **Itinerary and outcome:** The median time to discharge against medical advice was 16[6-26] $^{1–4}$ hours, with extremes ranging from 40 min to 14 days. The DAMA took place in 475 (73.4%) cases within 24 hours of hospital admission. Lack of financial resources was the most frequently cited reason, followed by the choice of traditional treatment and the preference for another hospital in 204 (31.5%), 198(30.6%) and 141 (21.8%) patients respectively. The first destination after DAMA was dominated by traditional therapists (60.4% of cases). Twenty patients (3,1%) made a first change of itinerary. Of the patients who made a first change of itinerary, 7 patients who initially used traditional treatment (4) or abstention (3) eventually returned to hospital, 4 patients who were initially in hospital eventually used traditional treatment and 2 patients decided to stop all treatment. On average, patients spent 180 days with the bonesetter. Lack of satisfactory results was the main reason for a first change of itinerary in 10 patients. The average duration of traditional treatment was 91.7 (± 53.73) days, with extremes ranging from 21 to 180 days. Massage was the most commonly used treatment method, followed by board restraint and scarification. The median direct cost reported by patients was 72,500 XAF [50,000-180,000] $^{1–9}$ with extremes ranging from 0 to 800,000 XAF.
5. **Medico-legal follow-up**: All patients had recourse to the initial medical certificate. Despite treatment by the bonesetter, 221 patients (34,1%) requested a final medical certificate.

4. Discussion

Discharge against medical advice in long bone trauma can occur at any age but is more common in the young working population. In our series, the average age was 35.47 (±13.86) years, which is similar to the results obtained by Pisoh et al.[1] and Abdulrasheed et al[7], who reported an average age of 45.5 and 30.0 years in their series. The 20 to 40 age group is the most involved because this age group represents the active, productive population and the nation's largest human resource. The fact that men make up the majority (73.4%) could be explained by the fact that they take more risks than women, and as providers for their families, are therefore more active than women and therefore more prone to orthopaedic injuries. They are also the decision-makers in the event of illness, whether for themselves or their families, which may explain why they go out against medical advice more than women, as other authors have pointed out.[1,6,7] The low socio-economic level of the patients in our study could be explained by the fact that the majority (77%) were in elementary occupations. This would also explain the high number of DAMA patients, since in our country the patient is responsible for the entire cost of treatment and therefore tends to plan his or her itinerary according to his or her financial means.

Public road accidents were the main cause of trauma in 83% of cases, and car-motorcycle collisions were the most common mechanism in 52.1% of RTA. These results are comparable to those of Farikou et al.[5] and Lamane et al.[2] who found respectively 78.9% and 83.3% of injuries due to RTA and car-motorcycle collisions were also the most common mechanism of RTA with respectively 43% and 66% of RTA. This could be explained by the ease with which driving licences are issued, the proliferation of motorcyclists with no knowledge of the highway code, who very often drive drunk and have a taste for risk. The poor state of the roads sometimes forces drivers into the opposite lane, leading to accidents.

In our series, the lower limb was the one most affected by fractures, with a total of 453 fractures, compared with 194 for the upper limb and 253 (39.1%) fractures were on the tibia. This is consistent with the findings of Hodonou et al,[6] who found 64 fractures of the lower limb compared with 10 of the upper limb, with leg fractures predominating at 61.54%. This could be explained by the fact that the devices responsible for these fractures are located in the lower limbs.

The DAMA rate in our study was 47.06%. This rate is much higher than in the literature.[1,6,7] However, our median SCAM time (16 [6-26][1–4] hours with 73.4% of DAMA within 24 hours) is similar to that of previous authors.

The reasons for discharge included lack of financial resources, the choice of traditional treatment and the preference for another hospital in 204 (31.5%), 198(30.6%) and 141 (21.8%) patients respectively. As universal health cover is not yet available in our country, the cost of treatment falls entirely on the patient and his family, which tends to dictate their choice of treatment. The cost of implants is sometimes beyond the patient's means, a relative's bad experience in hospital, failure to understand the medical procedure, refusal of a second operation to remove the osteosynthesis material, and lack of awareness of the seriousness of the disease, the geographical and financial accessibility of conventional treatment, and the widespread belief that conventional treatment has good results are all factors that lead people to deliberately choose conventional treatment, and explain the preponderance (60.4%) of this destination among patients discharged against medical advice at YEC.

In our study, only 13% of patients made a first change of itinerary, either to a health facility or to a bonesetter, and none of them had to make a second change of itinerary. The average length of hospital stay for patients returning to health facilities almost doubles, as also shown in the series by Aliyu et al.[3] This would appear to be due to the fact that patients return to hospital with complications that are sometimes serious. Massage was the most commonly used traditional treatment method in 65.6% of cases, followed by traditional restraint in 30.1% of cases, which corroborates the findings of Diakite et al,[4] who found that massage was used in 90.67% of cases and traditional restraint in 66.67% of cases.

Patients treated traditionally had a lower rate of return to activity than those treated medically. This would appear to be due to the serious after-effects caused.

From a strictly medico-legal point of view, DAMA does not constitute a waiver of medical liability. In our series, all patients requested an initial medical certificate. This medical document constitutes a patient's right.

5. Conclusion

At the end of our work, 45.7% of patients with long bone fractures initially admitted to hospital were discharged against medical advice. The type of injury was varied, with 38.8% open fractures, some of which were complex. The therapeutic pathway after DAMA is dominated by traditional fracture treatment, which is still very popular with the general public. The relatively low direct cost and the relatively acceptable results for certain types of fracture continue to maintain the attraction of traditional treatment. From a strictly medico-legal point of view, DAMA does not constitute a waiver of medical liability.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Tangnyin CP, Ngowe N, Elroy W. Discharge Against Medical Advice from surgical emergency wards in Yaounde - Cameroon. *Afr J Integ Health*. 2013;23(1):34–41.
2. Axel L. Outcome of Surgical Treatment of Femoral Shaft Fracture in Adults in Yaounde. *Doctor Med Thesis*. 2021;8(1):34–9.
3. Aliyu ZY. Discharge against medical advice: socio-demographic, clinical and financial perspectives. *Int J Clin Pract*. 2002;56(5):325–7.
4. Diakite C, Mounkoro PP, Dougnon A, Baiguini G, Bonciani M. Etude de la traumatologie traditionnelle en pays Dogon (Mali). *Mali Med*. 2004;3:13–9.
5. Ibrahima F, Fokam P, Douala MS, Bahebeck J, Sosso MA. Trauma to the locomotor apparatus in Cameroon. About 456 cases observed during 5 years à Douala General Hospital. *Health Sci Dis*. 2011;59(9):1–7.
6. Hodonou MA, Allodé SA, Tamou SB, Moumouni MA, Fatigba OH, Ossé M. Discharge against medical advice of victims of limb fractures at the University Hospital in North-East Benin;p. 466–9.
7. Nasir A, Babalola OM. Clinical Spectrum of discharges against medical advice in a developing country. *Indian J Surg*. 2008;70(2):68–72.
8. Aliyu ZY. Discharge against medical advice: socio-demographic, clinical and financial perspectives. *Int J Clin Pract*. 2002;56(5):325–7.
9. Badarou MAW, Dalatou C, Zirbine M, Seyni A. What is the proportion of discharges against medical advice linked to traditional practices among patients admitted to trauma emergencies in a Sahelian hospital. *Revue de Chirurgie Orthopédique et Traumatologique*. 2020;p. 434–7.

Author biography

Gilbert Frank Olivier Ngongang, Lecturer / Forensic Laboratory https://orcid.org/0000-0002-7547-1013

Fonkoue Loic, Lecturer

Ndoye El Hadj Oumar, Lecturer/ Forensic Unit

Arabo Saidou, Lecturer/ Orthopaedic Unit

Mefo NONO Annick, Medical Doctor

Namoudou Conde, Assistant/Forensic Unit

Soumah Mahamed, Full Professor/ Forensic unit

Bahebeck Jean, Full professor/Orthopaedic Unit

Cite this article: Ngongang GFO, Loic F, El Hadj Oumar N, Saidou A, Annick MNONO, Conde N, Mahamed S, Jean B. Discharge against medical advice (DAMA) in patients with long bone fractures at YEC: Epidemiological, clinical, evolutionary and medico-legal aspects. *IP Int J Forensic Med Toxicol Sci* 2024;9(1):9-12.