

Epidemio-Clinical and Therapeutic Study of Trauma of Limbs, Regional Hospital of Tombouctou

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Abstract

Original Research Article

Introduction: Limb traumas are very common and pose a public health problem, especially in developing countries. The aim of this work was to document the circumstances of occurrence as well as the epidemiological and therapeutic aspects of these injuries. Patients and **Methods:** this was a descriptive retrospective study conducted in the surgery department of the regional hospital of Timbuktu, covering the period from December 2022 to June 2023. All patient records that were managed for limb trauma were included in this study. Incomplete records and discharges were excluded. **Results:** 65 out of 133 cases of limb trauma received in the unit. The average age of our patients was 11-20 years old, or 26%. The male sex was the most represented with a percentage of 75.4%. Farmers were the most affected professional class at 30.8%, followed by growers at 21.5%. The most represented etiology in our study is road accidents with a percentage of 53.8%. Closed fractures accounted for 33.8% of our study **Conclusion:** Trauma to limbs is frequent in our society linked to speeding, the management of which requires good awareness.

Keywords: Accident -Fracture – Pickup.

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INTRODUCTION

Limb injuries are very common and constitute a public health problem especially in developing countries linked to the increase in road traffic accidents, firearm fractures and explosive device injuries [1-3]. The etiologies of these fractures are dominated by road accidents with 57.4%, domestic accidents 22.8%, sports accidents 9.7%, work accidents 2%, other types of accidents 8.1% [4]. The diagnosis of these injuries must be early, in order to avoid or limit complications. Most patients first turn to traditional treatments by bone-setters in case of traumatic limb pathology. Therapeutics remains and will certainly remain to be discussed for generations to come. We must know how to choose an attitude, judge it on its results and trust it [5] Few studies have been carried out on limb fractures in Mali and more particularly at the regional hospital of Timbuktu. This is what motivated us to study this subject. We note that in Timbuktu the majority of patients consult after a traditional therapeutic failure. Faced with economic constraints and the inadequacy of the technical platform

This is not only due to a lack of communication but also a lack of means of transport to access a suitable health center and also a lack of financial means. Faced with these circumstances we are interested in facing the aim of writing the clinical and therapeutic epidemic study of limb trauma in Timbuktu hospital.

PATIENTS AND METHODS

This was a descriptive retrospective study from December 2022 to June 2023 in the Surgery Department of the Timbuktu Regional Hospital. All patient files treated for limb trauma were included in this study. Incomplete files and discharges were excluded. All data collected were recorded on a technical sheet designed for this purpose. Tables and figures were formatted in Microsoft Word and Excel.

Statistical analysis:

Word processing and tables were performed using Microsoft Word 2016 and Excel 2017 software respectively. The chi2 test was the statistical test used

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with a 95% confidence interval (P-value was considered significant if the result was less than or equal to 0.05) and the exact p-Fisher in case the chi2 test was not valid. Statistical analysis was performed using SPSS 25.0 software.

Ethical aspects:

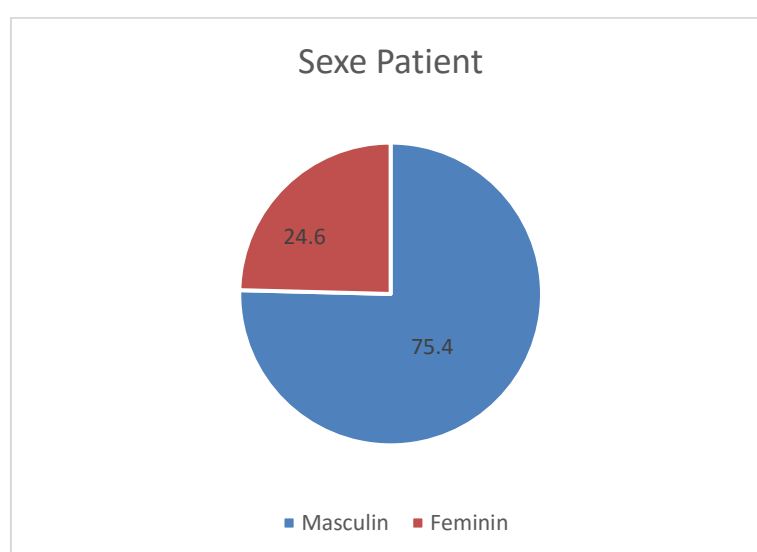
The research team guaranteed the confidentiality of the information collected from the study participants' files. This information was only accessible to the authors.

RESULTS

Our study included 65 cases of limb trauma out of 133 received and recorded in the unit.

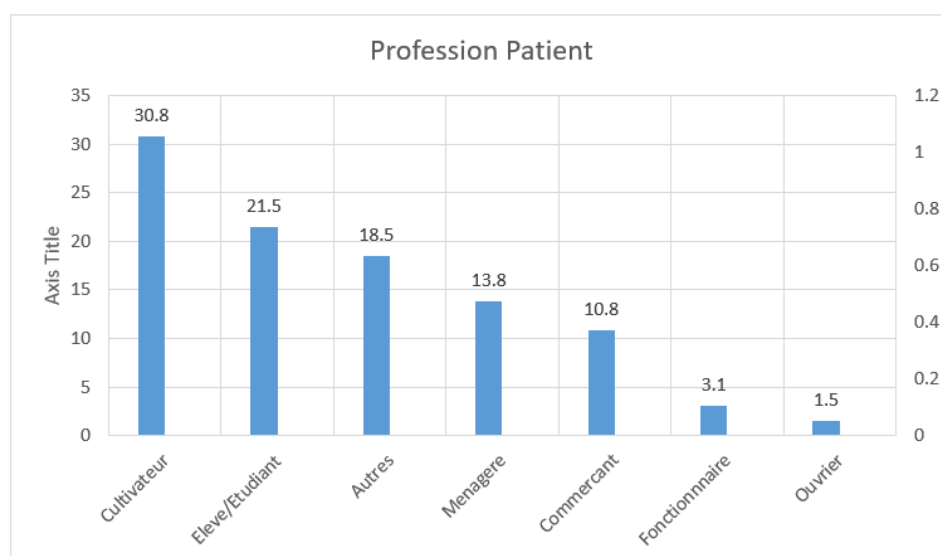
The average age of our patients was 11-20 years, or 26% (Figure 1). Males were the most represented, with a percentage of 75.4% (Figure 1). The others constituted the most affected professional class, with 30.8%, followed by high school students with 21.5% (Figure 2). The most represented etiology in our study was road traffic accidents, with a percentage of 53.8% (Figure 3). The others represented 36.9%, followed by closed fractures, or 33.8% (Table 2). The outcome was good in 92.3% (Table 3).

Social Demographic Characteristics of Patients : Distribution of patients according to sex: Graph 1



The male gender was the most represented with a percentage of 75.4%

2) Distribution of patients according to profession:



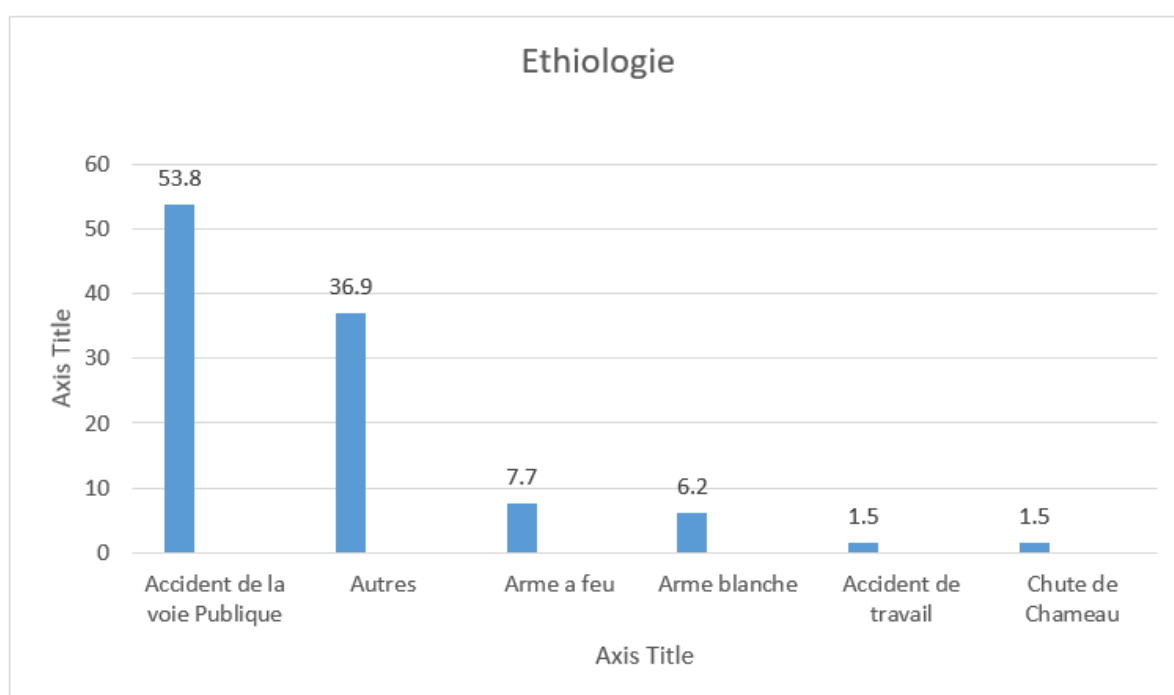
Workers were the least represented with a percentage of 1.5% Graph 2

3) Distribution of patients according to age group Table 1:

Tranche d'âge en ans	Effectif	Pourcentage
0 - 10	5	7,5
11 – 20	17	26
21 – 30	9	13,8
31- 40	9	13,8
41-50	10	19,3
>51	15	19,6
Total	65	100,0

The 11-20 age group was the most represented with a percentage of 26%.

II) Distribution of patients according to etiology:

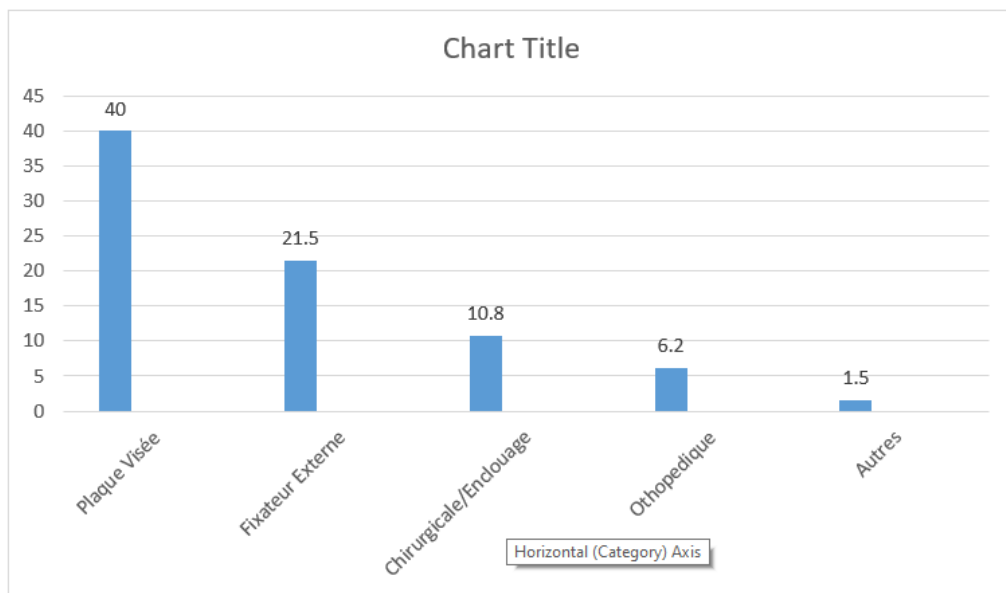


The most represented etiology in our study is road traffic accidents with a percentage of 53.8%. Graph 3

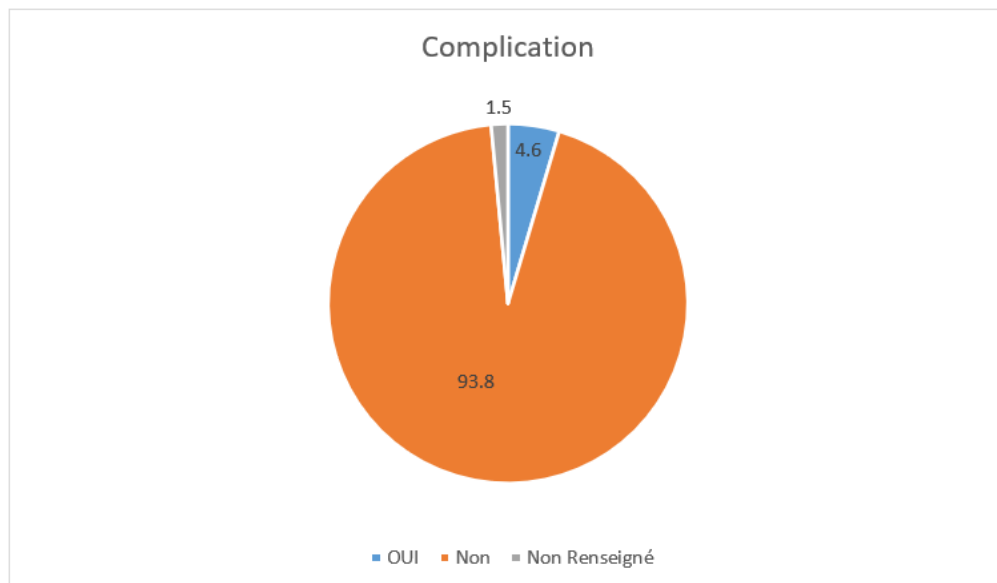
III) Distribution of patients according to the type of lesion table 2:

Type de Lésion	Effectif	Pourcentage
Fracture Fermée	22	33,8
Luxation	2	3,1
Autres	41	36,9
Total	65	100,0

Les closed fractures represented 33.8% of our study

IV) Distribution of patients according to therapeutic management:

The target plate was the most used therapeutic approach with a percentage of 40% Graph 4

V) Distribution of patients according to complication:

4.6% of patients in our sample experienced a complication, Graph 5

VI) Distribution of patients according to evolution: Table 3

Évolution	Effectif	Pourcentage
Bonne	60	92,3
Passable	5	7,7
Total	65	100,0

92.3% of patients in our sample have a good evolution

Treatment:

All our patients were consented for their respective surgeries, operated under appropriate conditions, respecting antiseptic measures. Antibiotic

prophylaxis was well-suited to all our patients with injectable cefazolin.

Reduction and synthesis with a targeted plate was the most common, with 40% followed by external

fixator therapy with 21.5%. Intramedullary nailing was the least common, with 1.5%.

The average time to union was 2-3 months, with a range of 2 months. The average time to weight-bearing was 1 month with crutches.

Evolution: The evolution was marked good for 60 patients, including 92.3%, and passable in 7.7%.

DISCUSSION

Among the traumas received in our emergencies, we noted that those of the members are the most accentuated in our regional hospitals especially in young subjects and can promote physical after-effects in their functional life through complications, the predominance of the male sex is marked by the great exposure of men to traumas and high-speed physical violence, several authors have brought this predominance of the male sex that corresponds to our study [6, 7], the average age is between 11 and 20 years of young people and young adults. This result is close to that obtained by Djibo D and Coll [8] (43% in favor of the age group. This is the most active segment of society, most often by the enthusiasm of youth thus exposing themselves more easily to traumas of all kinds. Different socio-professional layers have been affected by traumas of the members but predominantly, there are farmers in 30.8% of cases. The high frequency of road traffic is a risk factor. Farmers, especially after harvesting, use two-wheeled vehicles in gold mining areas as a means of transport, and these motorcycles are used as public transport. But the incivility of the population, when driving justifies these results [6, 9]. Road accidents were the major cause of limb trauma in our study with a proportion of 53.8%. These results are linked to several factors such as non-compliance with the highway code, visual disturbances, the predominance of 2-wheeled vehicles, the poor condition of the road networks. Similar results were found by different authors in Africa [6, 9]. According to the type of trauma and in our series 36.9% represented mixed trauma, and fractures were closed in 33.8% of cases. This result is lower than that obtained by Da SC and Coll [10] who found 77%, In 40% of cases, the osteosynthesis material was the screwed plate, followed by external fixator in 21.5% of cases. In our series the evolution was good 92.3% and 7.7% fair evolution

CONCLUSION

Limb injuries are common in our society due to excessive speed without knowledge of the highway code

and a sociocultural problem and treatment requires good awareness. In low-income countries like ours and in insecure areas, plates and fixators have their place in the treatment of diaphyseal fractures of the femur. That said, efforts must be made in road prevention to reduce the rate of road accidents which are the main cause.

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Conflict of interest: The authors declare no conflict of interest in relation to the writing of this article.

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