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ORIGINAL ARTICLE

The poisoning by the chloralose: Experience of the university hospital Hassan II of Fez between 2011 and 2014

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KEYWORDS

Poisoning;
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Summary

Introduction. – The alphachloralose or chloralose is a dangerous rodenticide implied in a significant number of accidental or voluntary poisonings. The acute poisoning by the alphachloralose is frequent, appears at a dose of 1 g for adults and 20 mg/kg for children. The neurological signs dominate the clinical picture usually associating a driving hyperexcitability with myoclonus characteristics and a coma of variable depth according to the ingested dose.

Objectives. – To estimate the demographic, clinical, analytical and therapeutic characteristics of the cases of poisoning by the alphachloralose received in the laboratory of toxicology of the hospital center Hassan II of Fez.

Patients and methods. – It is about a retrospective study led between May 2011 and December 2015, which concerned cases of acute poisoning with alphachloralose. The study was carried out in the toxicology laboratory of the University of Hassan II Hospital Centre in Fez city. We have included all confirmed cases of alphachloralose poisoning regardless of age, sex, provenance and circumstance of intoxication. The confirmation was made by toxicological analysis with Fujiwara-Ross.

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Results. – During the study period, one hundred and two cases of suspicion of acute poisoning by alphachloralosis were recorded, accounting for 12.7% (102/798) of all laboratory-testing requests received; of which 39 cases were analyzed. The average age was 20.4 ± 7.1 with extremes of age going from 3 years to 38 years; the sex ratio was 2.9 with a net feminine ascendancy. The circumstances of poisoning were generally suicidal in adults in 69.2% of the cases (27/39); four cases of pediatric poisonings were voluntary. The neurological signs of appeal were the most frequent symptoms (66.8% of the sick), with characteristic myoclonus in 12.5% of cases, pupils were mydriasis to 9.4% of the cases (28/39) and 9.38% of the cases (28/39) presented a bronchial congestion. The symptomatic treatment was realized in 94.1% of the cases. The evolution was favorable in all of the cases.

Conclusion. – In spite of a rich neurological picture with quasi-constant presence of a coma, the forecast of the acute poisoning by the alphachloralose remains favorable under early and adequate symptomatic treatment.

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Introduction

Alphachloralosis is a conversant rodenticide. It was historically used in the early twentieth century in human medicine as a hypnotic. It was abandoned because of its side effects, but still used today as a rodenticide only. This has accentuated the risk of poisoning whether it is voluntary or accidental, particularly in children.

Alphachloralosis poisoning in humans remains little described in the literature, due to its low frequency in Western countries. The few published series has shown a net decrease in developing countries. In France, the mean frequency did not exceed ten cases a year [1].

In North Africa, among the few published series are those Tunisian that revealed a high incidence of poisoning (3/100,000 in Tunisia), which may be due to its availability without any regulation [2]. In Morocco, this rodenticide is available in grain sachet of 3g, 7g or batch of three packages of 3g or 9g under several trade names (Raticidose[®], Raticide 50[®], Ratoxide[®]). It is on sale in grocery stores, drug-stores and in rural souks at a modest price. Because of its easy availability and the absence of sales regulations and controls, it is involved in a significant number of poisonings, accidental or voluntary. All brands of alphachloralosis rodenticide are professional use only products.

According to the annual report of the Poison Center Morocco in 2014, alphachloralosis occupies the second cause of pesticide poisoning with a percentage of 18.8% and the leading cause of poisoning by rat poison [3].

In the literature, lethally related alphachloralosis is low; it is estimated to be less than 2% of intoxicated cases [4]. According to the poison center of Morocco and through a study carried out on the factors predictive of severity of poisoning by pesticides, the convulsive rodenticides (alphachloralosis) are the least lethal in comparison with the mineral rodenticides such as aluminum phosphorus [5].

The Moroccan studies developed in this domain are rare and focused on pesticides in a general way. This study will examine the severe factors of alphachloralosis poisoning and

the epidemiological, clinical, therapeutic and evolutionary characteristics are analyzed.

Materials and methods

It is a cross-sectional study conducted 4 years from January 2011 to December 2015; it has concerned cases of acute poisoning of alphachloralosis. The study was carried out in the toxicology laboratory of the University of Hassan II Hospital Centre in Fez city. We have included all confirmed cases of alphachloralosis poisoning regardless of age, sex, provenance and circumstance of intoxication. The confirmation was made by toxicological analysis. Poisoning by other pesticides was excluded.

The index card of data collection was realized concerning the characteristics of the patient, the poisoning (the way, the place, the circumstances), the clinical signs, toxicological analysis results, therapeutic means and evolution of the patient.

An evaluation of clinical severity of the cases of acute poisonings was made according to that established by Hamouda et al. [6]. The identification of alphachloralose was based on the Fujiwara-Ross alkaline colorimetric technique performed on gastric content, urine or on the suspect product [7].

The data were entered in Excel and the statistical analysis was carried out by the software EPI info 2003. A descriptive analysis of all the variables was made. Quantitative variables were expressed as mean, standard deviation or median and extended and qualitative variables as numbers and percentages.

Results

During the study period, one hundred and two cases of suspicion of acute poisoning by alphachloralosis were recorded, accounting for 12.7% (102/798) of all laboratory-testing requests received; of which 39 cases were analyzed. The

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