

Acute Poisoning and Pregnancy (About 21 Cases)

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Abstract

Intoxication is a frequent reason for consultation, it can be voluntary for the purpose of autolysis or accidental. This is a retrospective study carried out in the obstetric intensive care unit of the IBN ROCHD University Hospital between January 2012 and December 2018, covering all cases of intoxication in pregnant women admitted to the service during the period of study. During the study period, 21 patients were admitted for management of acute intoxication during pregnancy. The average age of our patients was 26.1 years with a predominance of intoxication during the second trimester of pregnancy in 48%. Intoxication in pregnant women was for suicidal purpose in 43% of cases. The most incriminated toxicants were: Medicines in 43%, Raticides in 33% of cases and organophosphates in 9% of cases, and traditional plants in 9% of cases and finally carbon monoxide in 5% of cases. For organophosphates three characteristic syndromes were present: central syndrome in 100% of cases, then muscarinic syndrome in 50% of patients, and nicotinic syndrome in 50%. The management of our patients was essentially symptomatic; gastric lavage was performed in 43% of patients and antidote treatment was not administered in any case. 14% of patients were intubated and ventilated with administration of inotropic and / or vasoactive drugs.

Keywords: Acute poisoning, pregnancy, prognosis.

Introduction

Poisoning results from the body's exposure to a toxic product by ingestion, inhalation, skin exposure, rectal or parenteral administration. Toxic agents can be chemicals, drugs, biological products of animal or plant origin. Poisoning is a frequent reason for emergency visits in both developed and developing countries. This intoxication can be voluntary for the purpose of autolysis or accidental [9]. However, poisoning in pregnant women is poorly described in the literature, the majority of the literature concerns case reports. Pregnancy creates a real identity crisis during which each woman mobilizes all her capacities to adapt to the changes she is facing; it is both a time of physiological and psychological transformation. An unwanted pregnancy will be a source of stress for the mother. Efforts to get rid of the unexpected vary from simple curettage to suicide attempts. This condition can be accompanied by variable morbidity and mortality affecting both pregnant women and the fetus, and directly related to the site, gestational age and the toxins taken. Four types of treatment should be discussed in the face of intoxication [1]:

- Symptomatic treatment.
- Evacuating treatment: digestive decontamination.
- Purifying treatment.
- Specific treatment.

Methods

This is a retrospective study carried out in the obstetrical intensive care unit of CHU IBN ROCHD Casablanca between January 2012 and December 2018, covering all cases of acute poisoning in pregnant women admitted to the service during the study period. Intoxication is selected on the basis of criteria: Anamnestic (victim, family), clinical, paraclinical. Alcohol-smoking poisoning and acute ethyl poisoning were excluded. During this study, we noted the epidemiological characteristics of intoxication in pregnant women in the obstetric intensive care unit and the various clinical and toxic aspects and the diagnostic, therapeutic and prognostic management methods for poisoning.

Results

During the elapsed period, from January 1, 2012 to December 30, 2018, 21 patients were admitted to the obstetric intensive care unit of the CHU IBN ROCHD Casablanca, is 0.86% of admissions for treatment of acute intoxication during pregnancy. .

In this series, it was found that drugs were the main cause of acute poisoning in pregnant women, with 9 cases, or 43% (vitamins, antihistamines, antibiotics, drugs for the digestive system, antidiabetics, anti- inflammatory drugs with psychotropic drugs (tricyclic antidepressants, specific inhibitor of serotonin receptors)) followed by phostoxin in 7 cases, is 34%, then organophosphates in 2 cases, is 9% and traditional plants in 2 cases, is 9%, and finally monoxide of carbon in one patient, is 5% (figure.1, table.1).

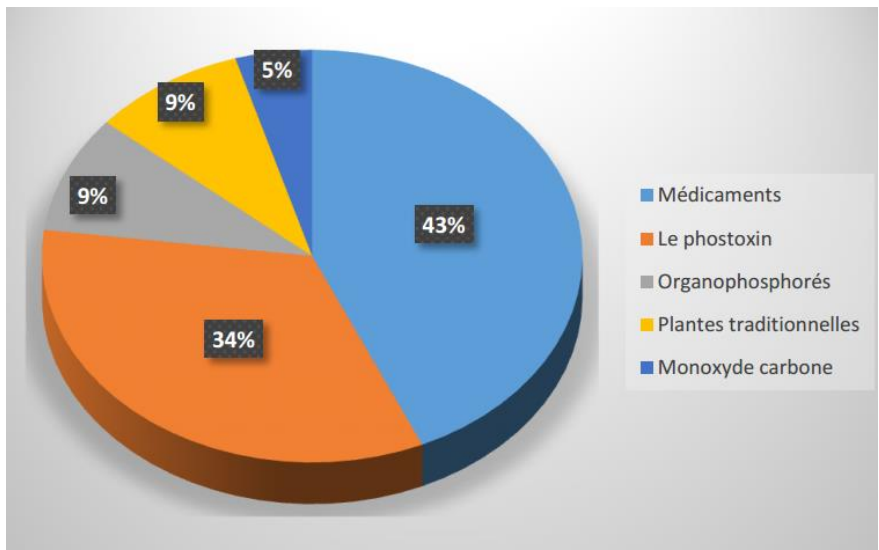


Figure 1: Breakdown by type of toxic product.

Toxic substances	Number of cases	Pourcentage %
Drugs	9	41
Phostoxin	7	34
Organophosphates	2	9
Traditional plants	2	9
Carbon monoxide	1	5

Table 1: Number of poisonings according to the type of toxic product.

The main signs found were digestive disorders with mainly nausea, vomiting and abdominal pain in 10 patients, or 48% of cases. Neurological and neuro-vegetative signs were present in 9 patients, is 43% of cases characterized by generalized hypotonia, headache, fasciculations and hypersalivations. Consciousness disorders were found in 9 patients, or 43% of cases. Cardiovascular signs were found in 8 patients, or 38% of cases, dominated by tachycardia in 7 patients (33%), followed by arterial hypotension in 6 patients, or 28% of cases, and a state of collapse. Cardiovascular disease in three patients, is 14% of cases.

Bradycardia and arrhythmias were found in a single case, is 5% of our patients. Respiratory disorders made up of polypnea and apnea and bronchial congestion were present in 6 cases, or 28%. The average respiratory rate was 20 cycles per minute. Renal signs of oliguria type were present in only one patient, is 5% of cases.

For organophosphates, the symptomatology was determined by the occurrence of the three characteristic syndromes (Table 2).

Clinical symptomatology	Number of cases	Pourcentage %
The central syndrom	2	100
The muscrinic syndrom	1	50
Nicotine syndrome	1	50

Table 2: Clinical symptomatology during acute organophosphate poisoning.

A systematic biological assessment was requested:

- The majority of cases (14 cases) presented with hypokalaemia, there is also a hypoglycemia between 0.52 and 0.82 g / dl in five patients and hyperglycemia greater than 1.05 in four patients.
- Creatinine was elevated in two patients, one drug poisoned case and one traditional herbal case.
- Cytolysis was noted in six patients.
- The determination of creatine phosphokinases (CPK) carried out in 7 patients with an elevation greater than 170 IU / l in two cases.

- Sinus tachycardia abnormalities were found in a single patient with a drug causative agent.
- The toxicological samples were taken from a single patient poisoned by phostoxin, is 5%. The sample medium was gastric fluid, which tested positive.
- In this series, the fetal outcome was favorable in 11 cases, is 52%, and unfavorable in 10 cases; of which 6 cases progressed to chronic fetal suffering, is 28%, and 3 cases of abortions, is 14%, and one case of premature delivery, is 5%.

All of our patients received symptomatic treatment (Table 3).

Type of treatment	Number of cases	Pourcentage %
Symptology	21	100
oxygen therapy	20	95
intubation artificial ventilation	3	14
inotropic drugs	9	43
Atropine	4	19
gastric lavage	9	43
Hemodialysis	0	0

Table 3: EstablisHed care (hospital).

Nine patients or 43% presented complications:

Hemodynamic instability not responding to inotropic and vasoactive drugs in three cases;

- Respiratory distress in three cases justifies artificial intubation;
- Hepatic cytolysis in 6 cases;
- Renal failure in two patients did not require hemodialysis;
- Muscle and cardiac damage attested by CPKs at 305 and 732µg / l in two patients;
- Rhythm and conduction disturbance in a single patient.

Discussion

According to the results of some epidemiological studies carried out in Turkey, the annual incidence of poisoning

was determined to be 0.8 to 5%. We believe that the difference between the reported rates could be due to the difference between the levels of the state of development, economic and socio-cultural of the countries [10].

The frequency of drug poisoning in Morocco continues to grow. This development can be explained by the increase in self-medication and the storage of drugs in homes, hence the interest of a broad campaign to raise awareness among the population, of which the poison control center can play a key role. [4].

Due to their demographic characteristics, pregnant women represent a population predisposed to VMI [6]. In addition, some MIs are performed for abortion, the drugs most frequently involved are psychotropic drugs (benzodiazepine especially in France) and paracetamol (Table 4).

Antidote name	Indications
Sodium bicarbonate	Severe poisoning by antidepressants
Dantrolene	Neuroleptic malignant syndrome for adults and children
Diazepam	Chloroquine poisoning
Epineprine	Serious poisoning by toxicants with membrane stabilizing activity

Table 4: The main emergency antidotes.

Evacuating treatment should only be performed in the absence of contraindication:

- Trouble of consciousness
- Hemodynamic instability
- Ingestion of caustics, hydrocarbons or foaming products.

An increase in the elimination of toxic substances can be obtained by creating new purification routes: extra-renal purification (EER), exsanguino-transfusion (EST) which aim either to create new elimination routes or to substitute for the kidney when the latter fails.

It is conventional to treat drug poisoning by combining, to varying degrees, symptomatic treatment [10, 2], evacuating and purifying treatment and in some cases specific treatment (Table 5).

In international studies [2, 4]. The mortality rate is mainly linked to Phostoxin, the toxicity of which is very high, with a mortality that can exceed 70%. Apart from this toxic [3, 5], this rate is similar to that of the literature. Thus, in England, acute poisoning is severe in 5% of cases [7], hospital mortality is less than 0.5%. In France and Turkey, the death rate is 1.2% [8].

The severity of poisoning may be directly related to the effects of the toxicant or to non-specific complications of the poisoning. The evaluation of the prognosis of an intoxication must take into account the characteristics of the toxicant, the dose assumed to be ingested, congestion (additive or synergistic effects), the formulation (prolonged release), the intoxicated patient (age and comorbidities) [2], the time between ingestion and treatment, the delayed onset of symptoms (activating metabolism) and the occurrence of complications.

The severity of fetal damage is highly variable, ranging from the total absence of damage to the occurrence of death in utero. Regardless of gestational age, the organ most affected is the fetal brain. Lesions of the brainstem, cerebellum and spinal cord are rare, accompanying only massive hemispherical lesions [8]. Neurological disorders are variable and non-specific and result in hypotonia, areflexia, seizures, motor or mental retardation, or microcephaly.

Conclusion

Pregnancy is a special time when physical, psychological and physiological changes occur in women. Premature and unplanned pregnancy can be a source of additional stress for women. The diagnosis of acute poisoning has evolved a lot, so alongside the clinical, which is sometimes evocative but not always conclusive. The contribution of analytical

toxicology remains very interesting at this level to determine the toxic in question [7]. The management of poisoning is currently being called into question, favoring treatment specific to the evacuating and purifying treatment still widely used in our context. However, the action to be taken must follow a precise algorithm. The prognosis for these poisonings is improving thanks to recent advances in resuscitation and antidote treatment [6].

"Conflict of interest: none"

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