

The Toxicovigilance scheme in the French Caribbean

The French Caribbean toxicovigilance scheme (DTV Antilles) was set up in November 2014, as part of the measures taken following contamination of the soil by chlordecone and its health consequences. This is a toxicovigilance scheme and not a Poison Control Centre (PCC) because unlike the PCCs, the DTV Antilles does not have an emergency telephone hotline (RTU). However, if necessary, the Paris PCC can respond to telephone requests from the French Caribbean thanks to its round-the-clock service, seven days a week.

The DTV's operational objectives are to set up and coordinate networks on different themes specific to local characteristics or areas of interest, such as poisonings associated with pesticides, local fauna and flora, or certain traditional medicines [1]. The DTV works in close partnership with the competent authorities – regional health agencies (ARS), regional intervention units (CIRE), national health and safety agencies – and has joined the national toxicovigilance network coordinated by ANSES. For non-emergency cases and working closely with the Paris PCC, it responds to requests from healthcare professionals in the region and the public, for information on exposure to toxic mixtures or substances, on assessing the resulting risks and/or on their prevention. The DTV is exclusively funded by ANSES.

Below are the most important lessons learned from the first three years of operation.

1. Epidemiological surveillance of acute poisoning occurring in Guadeloupe's hospital emergency departments between 2013 and 2015 identified 2,822 poisoning cases (excluding alcohol) [2]. The study highlighted strong local specificities, in particular (suspected) cases of poisoning by ciguatera, a biotoxin found in certain fish and responsible for a neurological syndrome (n=59), Scolopendra centipede bites (n=214), lionfish stings (n=47), and poisoning by ammonia (n=94), aldicarb (an insecticide that has been banned since 2004) (n=8) and alpha-chloralose (n=9). The latter was also the subject of a

national study by PCCs, which revealed a use specific to Guadeloupe: alpha-chloralose was prepared in pharmacies in a mixture with lard for use as a rodenticide. In view of the frequency and severity of the cases observed, a reminder was sent to the National Council of the Order of Pharmacists, specifying that since alpha-chloralose is no longer listed in the Pharmacopoeia, pharmacists are no longer authorised to prepare or sell alpha-chloralose products unless they comply with the biocide regulations in terms of concentration and packaging [3]. Lastly, a specific study on jellyfish stings showed that these poisoning cases, whose periodicity was correlated with the seasons and the moon cycle, were frequently associated with Irukandji syndrome (more severe envenomation with dermal signs, but also generalised delayed-onset symptoms, including extreme pain and other signs such as sweating, severe anxiety, nausea, vomiting, etc.). It included a description of the first case of cardiac decompensation outside the Pacific [4].

2. Reports from healthcare professionals helped identify the liver toxicity of a plant widely used by diabetics in the French Caribbean, *Tinospora crispa* [2], as well as the cardiac toxicity of manchineel fruit.

3. Toxicological expert appraisals carried out at the request of the health authorities led to detection of the presence of aristolochic acids, which are nephrotoxic and carcinogenic substances, in a traditional preparation containing caterpillars macerated in alcohol [5], and provided scientific support for local problems such as masses of Sargassum seaweed washing up on the coasts and water contaminated by hydrocarbons in a Guadeloupe municipality.

These selected examples show the value of DTV Antilles in improving knowledge and prevention of poisoning in the French Caribbean.

Juliette BLOCH (Anses)

References

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[3] http://vigilances.mag.anses.fr/sites/default/files/VigilancesN1_alphachloralose_1.pdf

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