



Haff's disease in Brazil - the need for scientific follow-up and case notification

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In Brazil, cases of poisoning require mandatory notification. Active health professionals as well as those responsible for public and private organizations and establishments of health and teaching, are obligated to report the occurrence of suspected or confirmed cases of compulsory notifiable diseases to the Brazilian Health System (SUS) managers. However, recording this information is still a major challenge for health services in the country, possibly due to the lack of recognition by both health professionals and the population in general, even in endemic areas. In addition, although all suspected cases are notified at the time of first suspicion, the information is available only when a case is classified as confirmed, usually by specific laboratory criteria, which generally occurs about few days after notification.¹ This results in a delay of case confirmation and reports by the public health institutions.

Cardoso et al.² investigated clinical characteristics of Haff disease cases recorded from 2016 to 2021 in Salvador, Brazil, related to fish consumption. These clinical findings were accompanied by demographic records and epidemiological exposure data and, when possible, laboratory analyses. The investigation of toxins and trace metals was also carried out in some fish samples collected. The main line of evidence from this health surveillance study is that the disease was caused by consumption of fish contaminated by palytoxin (PLTX)-like compounds, such as isobaric PLTX, ovatoxin-a (OVTX-a), OVTX-b and OVTX-d.

Haff disease is a rare syndrome of myalgia and rhabdomyolysis. However, there are several outbreaks reported around the world associated with the consumption of fish and seafood.³ Brazil has a vast coast area with tropical beaches with warm waters, excellent for recreation and tourism activities and a high consumption of fish. According to official data reported for the years 2017-2018, the national average per capita of fresh fish, seafood and other fish-based preparations consumption is 13.1 g/day, 1.5 g/day and 0.4 g/day, respectively. Bringing together the main records of Haff disease in Brazil, the Amazon Region,⁴ São Paulo⁵

and Salvador,⁶ we highlight the following species: "Pacu" (*Mylossoma* spp.), "Tambaqui" (*Colossoma macropomum*), "Pirapitinga" (*Piaractus brachyomus*), "Olho de boi" (*Seriola* sp.) and possibly 'Badejo' (*Mycteroperca* spp) as the most related to outbreaks of this disease in Brazil.

In the country, other cases of poisoning have been reported due to the consumption of fishes, molluscs and crustaceans that accumulate toxins, such as Tetrodotoxin (TTX) and occasionally Saxitoxin (STX).⁷ However, the most emblematic national case of poisoning by toxins, with worldwide repercussion, was the outbreak of acute liver failure occurred at a dialysis centre in Caruaru, in which 76 patients died after intoxication by cyanobacterial toxins.⁸ This case mobilized researchers from around the world and national health authorities and served as an alert for monitoring programs and improvements in water treatment techniques for human consumption. On the other hand, cases of food poisoning, probably due to the lack of notification and their diffuse nature, have not received due attention from health authorities.

In 2016, an epidemiological alert was issued after an outbreak of Haff, aiming to identify the occurrence of new cases and investigate the cases in a timely manner between the health teams of the public and private network, as early diagnosis and treatment can prevent or reduce the complications of the disease and even the death of the individual.⁹ Once a diagnosis of Haff disease is made, healthcare providers should do their best to identify the source of contaminated fish and report the case to health authorities, so that outbreaks can be contained and at-risk population could be alerted about the need to seek help, if they develop similar symptoms.⁵ It should be emphasized the importance of notifying cases with compatible symptoms, even in the impossibility of taking the serum creatine phosphokinase (CPK) exam and obtaining samples of the ingested food to identify the toxin,¹⁰ which is a greater challenge to the health system.

According to Cardoso et al.² despite the short period of illness, disease severity was intense, leading the most of patients hospitalized and at least a quarter of patients needed intensive care unit admission, which represents an important cost to the health care system. Therefore, perfecting the screening of notification, verifying and analysing mechanisms to identify and properly respond to the management of this disease is so important.

The Lancet Regional Health - Americas
2022;5: 100100
Published online 18 November 2021
<https://doi.org/10.1016/j.lana.2021.100100>

DOI of original article: <http://dx.doi.org/10.1016/j.lana.2021.100092>

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Although cases of poisoning (including food poisoning) are officially registered, rhabdomyolysis, due to multiple aetiologies, is not included in the national list of mandatory notification diseases. Given the scenario of an increase in the recent outbreak of Haff disease in the country, the mandatory notification would certainly be a very useful action for measuring, monitoring, and controlling this disease in the country. While this does not happen, we encourage all local cases to be highlighted in the scientific literature to support health surveillance services and alert to the need for greater attention to this issue.

Conflict of Interest

The authors declare no conflicts of interest

Contributors

Both the authors contributed equally to the article.

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