



# A CASE OF VOLUNTARY EXPOSURE TO THE VENOM OF THE GIANT LEAF FROG (PHYLLOMEDUSA BICOLOR)

DE SMEDT L, DE PAEPE P, VAN DE SIJPE P, MOSTIN M.

## OBJECTIVE

To describe an uncommon case of toxicity related to a ritual with the venom of the giant leaf frog.

## CASE REPORT

**A 28 year old woman presented herself to the emergency department because she felt unwell, was suffering from pronounced vomiting, epigastric pain and sharp right fossa pain.**

She had participated in an Amazonian shamanic ritual called **Kambo** or Sapo ritual, two hours prior to the admission at the Emergency Department.

Within half an hour after ingestion of the three liters of water she had to drink as fast as possible as part of the ritual, she started to vomit and to complain of heavy abdominal pain.

*Physical examination* of the abdomen showed a soft abdomen with a general tenderness to palpation. Mc Burney's sign and Murphy's sign were negative. Normal peristalsis was heard on auscultation. The rest of the clinical examination was without particularities and clinical parameters were normal.

*Blood results* showed hyponatremia of 132 meq/L (135-144 meq/L) and hypokalemia of 3,4 meq/L ( 3,6-4,8 meq/L). Abdominal ultrasonography revealed no abnormalities.

The treatment was symptomatic with an analgesic, an anti-emetic and fluid restriction. During observation in the Emergency Department the gastrointestinal complaints disappeared. She fully recovered and could be discharged after 24 hrs. with normal serum electrolytes levels.



**The Kambo ritual** is a strong physical purge ritual traditionally used by the native people as 'vaccine' to ward off illness, bad luck, to give hunting strength and even to increase attractiveness.

The Phyllomedusa bicolor also called Giant Leaf Frog or Giant Monkey Frog lives in the north-west of the Amazonian rain forest. The ritual consists on the application of dried secretions of the giant leaf frog on freshly provoked burn wounds on the posterior side of the right lower leg or upper shoulder.



## TOXICITY

Toxicity may be due to the toxic peptides in the secretions of the frog, such as phyllocaeruleine, phyllomedusine, phyllokinine, dermorphine and deltorphine [1].

Toxicity is also due to water intoxication as these rituals are often combined with an excessive water intake resulting in hyponatremia.

This is to our knowledge the first case reported in Belgium. Only one similar case has been described with a patient developing more severe symptoms which was ascribed to phyllomedusine toxin induced SIADH [2].

## CONCLUSION

Emergency physicians must be aware of unusual voluntary intoxications with the venom of the giant leaf frog during Kambo or Sapo rituals. Toxicity may be due to the toxic substances, but also due to water intoxication as these rituals are often combined with an excessive water intake resulting in hyponatremia.

## REFERENCES

- [1] den Brave P, Bruins E, Bronkhorst M. Phyllomedusa bicolor skin secretion and the Kambō ritual. J Venom Anim Toxins incl Trop Dis. 2014;20(1):40.
- [2] Leban V, Kozelj G, Brvar M. The syndrome of inappropriate antidiuretic hormone secretion after giant leaf frog (Phyllomedusa bicolor) venom exposure. Toxicon. 2016;120:107-109.

Contact: lieven.desmedt@ugent.be



● kritieke diensten



Universitair Ziekenhuis Gent