

CASE REPORT

Severe Hemorrhagic Syndrome After *Lonomia* Caterpillar Envenomation in the Western Brazilian Amazon: How Many More Cases Are There?

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Contact with *Lonomia* caterpillars can cause a hemorrhagic syndrome. In Brazil, *Lonomia obliqua* and *Lonomia achelous* are known to cause this venom-induced disease. In the Brazilian Amazon, descriptions of this kind of envenomation are scarce. Herein, we report a severe hemorrhagic syndrome caused by *Lonomia* envenomation in the Amazonas state, Western Brazilian Amazon. The patient showed signs of hemorrhage lasting 8 days and required *Lonomia* antivenom administration, which resulted in resolution of hemorrhagic syndrome. Thus, availability of *Lonomia* antivenom as well as early antivenom therapy administration should be addressed across remote areas in the Amazon.

Keywords: hemorrhagic syndrome, *Lonomia*, caterpillar envenomation, antivenom, erucism

Introduction

Some larval lepidopteran insects may cause envenomation via contact with their bristles.¹ In Brazil, the national surveillance system recorded a total of 35,117 cases of caterpillar injuries between 2000 and 2013. These injuries showed notable increasing trend from 216 cases in 2000 (0.1 cases/100,000 inhabitants) to 3488 in 2013 (1.8 cases/100,000 inhabitants), possibly related to an improvement in surveillance sensitivity over time.² In 2013, the incidence was higher in Southern Brazil (4.2 cases/100,000 inhabitants) in comparison with the Brazilian Amazon (1.5 cases/100,000 inhabitants). The number of cases officially recorded in the Amazon is probably underestimated because of underreporting, since local indigenous and riverine populations do not have easy access to health centers.

Most caterpillar injuries are caused by the larvae of several species belonging to the Megalopigidae and Saturniidae families. These taxa cause envenomations that have individually indistinguishable local symptomatology, described as immediate burning pain, erythema, edema, and immediate lymphangitis; in later stages, there may be vesicles, bullae, erosions, petechiae, superficial skin necrosis, and ulcerations.¹ Only *Lonomia* spp (Saturniidae) can cause systemic complications, such as hemorrhagic syndrome and acute renal failure³⁻⁶ and result in fatalities.⁷ Before the introduction of specific antivenom for *Lonomia* spp, 10 fatalities attributed to hemorrhagic complications occurred among 26 workmen in Pará state (Eastern Brazilian Amazon) who were tapping rubber trees when envenomed⁸; in the Southern region, 4/155 patients envenomed by *Lonomia* died from reported massive hemorrhage.⁹

Two species of *Lonomia* are known to cause hemorrhagic syndrome: *Lonomia achelous* and *Lonomia obliqua*.⁶⁻⁸ *L. achelous* is found in the Amazonian portions of Brazil, Venezuela, Colombia, Peru, Ecuador, and in the Guianas.^{10,11} *L. obliqua* is found in the non-Amazonian area of Brazil, Paraguay, Argentina, and Uruguay¹⁰ and can cause disseminated intravascular coagulation and a

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consumptive coagulopathy, leading to hemorrhagic syndrome.¹¹ Other *Lonomia* species found in the Amazon basin are *Lonomia descimoni* and *Lonomia cynira*, which may be also associated to envenomations.¹⁰ However, to the best of our knowledge, there have been no cases of hemorrhagic syndrome caused by *Lonomia* in this region.

Herein, we report a severe hemorrhagic syndrome after *Lonomia* caterpillar envenomation in Manaus, in the state of Amazonas.

The publication of this case report was approved by the Ethics Review Board of the Fundação de Medicina Tropical Doutor Heitor Vieira Dourado (approval number 713.140/2014).

Case report

A 58-year-old fisherman, previously healthy, accidentally came into contact with caterpillars on his right forearm in a riverine community located in the rural area of Manaus, Amazonas state, Brazil (Figure 1A). The

patient reported that the contact was made with several caterpillars. After contact (day 0), he experienced an immediate local burning pain, erythema, and paresthesia at the site of contact. Around 24 hours after contact (day 1), he reported the occurrence of bleeding gums (Figure 1B) and bleeding from recent excoriations. Four days after contact (day 4), he reported the persistence of symptoms and was admitted to the Fundação de Medicina Tropical Doutor Heitor Vieira Dourado, a reference tertiary center for infectious and dermatologic diseases in Manaus, Amazonas state. Upon admission, this patient presented bleeding gums, epistaxis, and ecchymoses in upper limbs and abdomen. Laboratory analyses revealed blood incoagulability. On day 4, the patient brought caterpillars that were identified as *Lonomia* sp at the Butantan Institute (Prof. Roberto Henrique Pinto Moraes) (Figures 1C and 1D).

On day 6, the patient's symptoms persisted (bleeding gums, ecchymoses in upper limbs and abdomen). Laboratory investigation revealed prothrombin activity of

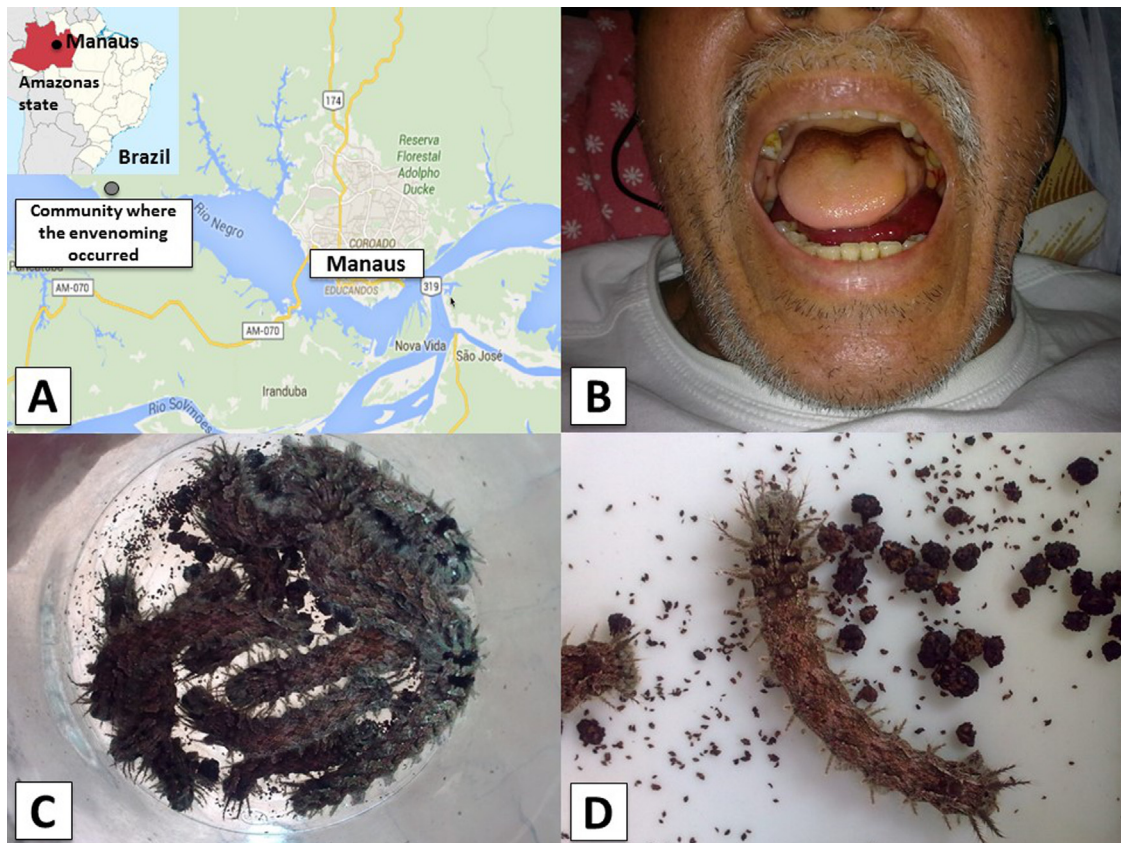


Figure 1. Spatial location, clinical picture and agent of the *Lonomia* envenomation case. A, Geographic location of the community in the rural area of Manaus, Amazonas state, Western Brazilian Amazon, in which the envenomation occurred. B, Bleeding gums and sublingual bleeding observed 8 days after envenomation (day 8). C and D, *Lonomia* specimens responsible for the envenomation brought by the patient on admission.

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