

Alternative for the quality control of antivenom production proposed by *Lonomia obliqua* caterpillars using analytic techniques

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The caterpillars *Lonomia obliqua* Walker (*L. obliqua*) species, commonly found in southern Brazil, is very poisonous and can cause severe damage in human (haemorrhagic effects) after the contact that can lead to death [1]. The first case of poisoning (registered in Brazil) occurred in 1989 and the average number of accidents is closer to 500/year [2]. Nowadays, the Butantan Institute (Research Center at São Paulo city, Brazil) is active in the production of this antivenom in Latin America; it is the only producer of antilonomic serum. However, in the last two years, this caterpillar has been found in other regions due, mainly, to the expansion and destruction of natural ecosystems provide their growth in all regions of the country. To ensure that the antivenom produced (considering the different origins) can be used for the manufacture of unaltered antilonomic serum, it is necessary to standardize this antidote. We intend to standardize the serum obtained from different regions of origin using X-Ray Fluorescence (XRF). The experimental conditions using the compact XRF spectrometers (X-123SDD, Amptek) were optimized. The results will be compared and validated with INAA analysis.

[1] Alvarez Flores MP, Zannin M, Chudzinski-Tavassi AM. New insight into the mechanism of *Lonomia obliqua* envenoming: toxin involvement and molecular approach. *Pathophysiol Haemost Thromb.* 2010;37(1):1-16.

[2] Ministério da Saúde (2018), Casos de acidentes por lagartas. Brasil, Grandes Regiões e Unidades Federadas. 2000 a 2017, in: <http://portalms.saude.gov.br/saude-de-a-z/acidentes-por-animais-peconhentos/13702-situacao-epidemiologica-dados>

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