

Inorganic elements in blood of mice (HIII) immunized with snake venom using INAA and EDXRF techniques

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Recent research has shown that Brazil has the greatest diversity of snakes in the world (around 380 species), a large portion of them being venomous. Consequently, there is a high rate of snake bites, with the highest incidence (~80%) caused by *Bothrops* venom. Nowadays, Instituto Butantan (Research Center at São Paulo city, Brazil) produces various types of antivenom (hyper immune sera) to meet the large number of incidences. Particularly, the anti-*Bothrops* serum is produced in horses inoculated by a mix of snake venoms from different species (such as jararaca, jararacussu, moogeni, alternatus, etc.). Its preparation requires a series of steps, among them, tests in animal models, which allows us to verify its effectiveness before its injection to envenomed patients. In this investigation, the mice (HIII) were immunized with different species of *Bothrops* snake venom to evaluate the inorganic elements concentration in their blood by using INAA and EDXRF techniques. The XRF measurements were performed using X-Ray Spectrometer with Ag X-ray tube. The INAA measurements were performed in the IEA-R1 nuclear reactor (3.5-4.5MW, pool type) at IPEN. The results from both techniques were compared with the control group (mice not immunized) and with human reference values. The data are important for clinical research of envenomed patients who will be submitted to immunotherapy.