NAA TECHNIQUE FOR CLINICAL INVESTIGATION OF MICE IMMUNIZED WITH BOTHROP VENOM

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Animal model, mainly mouse, is currently immunized with different venoms from snakes (responsible by 80% of the snakebites in Brazil) to produce several types of antivenom including anti-bothrops serum. In this study Neutron Activation Analysis technique was used to determine the whole blood concentrations of elements that are important for clinical analysis (Ca, Cl, K, Na,…) in several mice immunizated with *Bothrops* venom (mix of snake venom that has high prevalence in Brazil) obtained from snakes of several regions of Brazil . Considering that Na is the major component in the *Bothrops* venom and also majority in blood, its evaluation is important for checking its clinical performance. Besides the evaluation of K and Cl are also relevant because they are strongly correlated with Na in blood: while potassium is associated with sodium by Na/K-ATPase the chlorine (also majority in blood) is present in blood mainly in the form of NaCl.
In this study the samples came from Instituto Butantan at São Paulo city. To perform these measurements the blood was collected by the retro–orbital venous plexus from seventeen adult mice. Each individual biological sample [100μl whole blood spread in a filter] was sealed into individual polyethylene bag, together with the Au detectors used for the measurement of the flux distribution, and irradiated in the nuclear reactor (IEA-R1, 2-4MW, pool type) for few minutes. The activated materials are gamma-counted using an HPGe spectrometer and the concentration obtained by using in-house software. According to these results potassium levels are altered in relation to human reference values. We intend to use the present data for clinical practice for checking the health status of these animals during immunization process.

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