

A NEW METHOD FOR STRIPPING VENOMOUS SNAKES

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The usual method of evacuating the venom glands of poisonous snakes—viz., manual manipulation, is in a great many cases accompanied by traumatic injury of sufficient severity to interfere with subsequent functioning of these structures. This results, shortly, in a decrease in venom production and a product of inferior quality. Experience has shown that by employing electrical stimuli in place of manual manipulation, the venom can be obtained without injury to the glands and without affecting materially its synthesis or quality. The procedure as carried out in this laboratory is simple and safe and the necessary apparatus is inexpensive.

The apparatus consists of an induction coil which can be regulated to deliver from five to ten volts. The type used in this laboratory is one of very simple construction with a stationary secondary coil and a fixed soft-iron wire core. The strength of the current is regulated by means of a "damper," made of copper or brass tubing, which slides over the wire core, thus cutting off the inducing effort of the core when completely covered and increasing it as the tube is drawn out. The current is supplied by two dry cell batteries.

The electrodes are also of simple construction. The active one consists of a wooden handle into which is inserted a piece of glass tubing carrying a copper wire. The wire is looped at the end and covered with several thicknesses of gauze. The indifferent electrode is made by inserting a coiled wire into an ordinary sponge. Both electrodes are well moistened with normal saline before being applied to the snake.

Contractions of the muscles surrounding the venom glands are

produced by applying the active electrode to the side of the head back of the eye and the indifferent electrode to any distant part of the body. The exact location of the area to which the active electrode is applied is determined by trial for the different species of reptiles. In the Bushmasters, Fer-de-lance, Tropical rattlers and Hog-nose vipers the strongest contractions are produced when the electrode is placed at a point about mid-way between the eye and the back of the head at the upper limit of the upper labials.

The strength of the induced current necessary to produce contractions of the muscles involved varies slightly with the different sizes of snakes, but as a rule from five to ten volts will be satisfactory.

Two persons are required for the stripping process. One holds the snake by the neck and manipulates the active electrode and the other immobilizes the body and presses some portion of the ventral surface against the indifferent electrode. The same type of glass container can be used satisfactorily for the collection of the expressed venom as is used in the older method. We have found it more convenient, however, to use a smaller receptacle, one which can be inserted a short distance into the mouth of the snake. A glass preparation dish, outside diameter 53 mm. and outside height 27 mm., serves this purpose. The dish is held in a small clamp supported by a ring stand.

The interval between venom extractions should be not less than two weeks, this being about the average time for the supply to be replenished.

This method of stripping has been used in this laboratory for over a year and has during this time given very satisfactory results.