



## POISONING PROCESS IN THE BLOOD AND LIVER OF RATS POISONED BY SPECTACLED SNAKE VENOM

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<https://doi.org/10.5281/zenodo.10814208>

### ARTICLE INFO

Received: 10th March 2024

Accepted: 11th March 2024

Published: 13th March 2024

### KEYWORDS

blood, snake, central asian  
spectacled snake,  
lysophosphatidylcholine, liver

### ABSTRACT

*It is known that catabin has high fighting properties. Previous experiments have shown that antihypoxants such as gutimine and sodium oxybutyrate give positive results after both prophylaxis and snake venom poisoning. The direct effects of catabin on tissue when poisoned by snake venom are currently poorly understood. Membrane phospholipids, which can liquefy the body, play an important role in the exchange of membrane properties. In our following studies, we aimed to monitor the results of various indicators of phospholipids in rat blood and liver catabin use and non-use after intoxication with Central Asian spectacle snake venom.*

White rats weighing 200-300 g were used in the experiment. The rodents were fed in bright, moderately ventilated, wooden houses under constant supervision. The animals were divided into three groups and 16 rodents were placed in each house. In the first and second groups, 160 mcg.mg of Central Asian spectacled snake venom was delivered from the buttocks, and two minutes later 50 mg was given to the second group of rodents, catabin was sent.

The third group of rodents was provided with a physiological mixture. After 15 minutes, the animals were killed. The Central Asian spectacled snake venom was brought from the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan. During the experiment, calcium chloride was dried in a desiccator using 2002 samples. Blood and liver lipids were retested using several methods. The content of phospholipids in the blood and liver was controlled by a thin, double tube. The proteins were tested using the Loury method.

It is known that in addition to phospholipase A2, cytotoxins and neurotoxins located in the C-2 fraction, cobra venom also contains other components with a molecular weight below 3000-4000 (1,2). They also act uncouplingly on mitochondrial respiration and oxidative phosphorylation (3). It should be noted that the yield of C-3 fractions during gel filtration of Central Asian cobra venom is only 1% (1.2). It is clear that in the general mechanism of action of the poison on respiration and oxidative phosphorylation of mitochondria, the contribution of low molecular weight peptides is small.

Of interest was a comparative study of the membrane-active properties of low-molecular-weight cobra venom peptides in relation to their effect on oxidative phosphorylation and the activity of mitochondrial multienzyme systems.

Low molecular weight peptides of cobra venom were isolated according to method (1, 2). Rat liver mitochondria were isolated by differential centrifugation (4). The rate of oxygen consumption in various metabolic states of mitochondria, the value of Chance respiratory control (CRC) and the ADP/O coefficient, and the activity of multienzyme systems of mitochondrial membranes were measured polarographically (5). Protein content was determined using the Lowry method.

Despite this, they may be of significant interest as a tool for studying the structure and function of biological membranes, in particular mitochondrial membranes, due to their fairly pronounced effect and small size, which will make it possible to determine their structure and carry out targeted modifications of functionally significant groups.

Spectacled snake (*Naja naja*) is a species of snake belonging to the group of kapcha snakes. Own. 1.6–2 m. On the back of its neck it expands when threatened (hence its name). The "glasses" pattern of the Indian Spectacled Snake consists of a single ring.

Distributed in South and Southeast Asia. It lives among stones and bushes, in the nests of termites and rodents, sometimes in ruins. It climbs trees and swims well in water. Active in the 2nd half of the day and in the evenings. It feeds on aquatic and terrestrial animals, rodents, sometimes birds and other mammals. Lays 8-45 eggs. Very toxic. Its venom is used in medicine to make anti-venom serums and for other purposes.

Studies in Central Asian spectacle snake venom have shown that an increase in phosphatidylcholine, phosphatidylserine, lysophosphatidylcholine in the blood leads to a decrease in phosphatidylethanolamine, phosphatidylinositol and cardiolipins. After the injection, the amount of phosphatidylcholine in the blood increased by 1.69 times. At the same time, the amount of lysophosphatidylcholine increased by 12 times.

Decrease in phosphatidylethanolamine, phosphatidylinositol, and cardiolipins in tissues after delivery of Central Asian spectacled snake venom 1.62; 1.48 and 1.80 times decreased, respectively. It is clear that the observed changes occur as a result of the action of Apospholipases. This is because methyl, a snake venom found in liver tissue, creates an enzymatic state that breaks down as a result of decarboxylic reactions. After venom poisoning by snake venom, A2 phospholipases primarily reduce phosphatidylethanolamine, phosphatidylinositide, and cardiolipin.

After the introduction of spectacled snake venom, the production of phosphatidylcholine and phosphatidylserines in the blood of rats decreases and returns to normal. Lysophosphatidylcholine levels are twice as high as normal begins and approaches the norm. However, phosphatidylcholine, phosphatidylserine and lysophosphatidylcholine are only 1.31; 1.18 and rises above the norm by 2.15 times. In contrast, phosphatidylethanolamine, phosphatidylinositide, and cardiolipins, 1.18; 1.22; and 1.24 times less than the norm. Intake of snake venom into the animal's body, an increase in phosphatidylcholine, lysophosphatidylcholine, and mainly in the liver, this figure is 1.57; 2.45; gives a high result,

and it can be seen that the amount of phosphatidylethanolamine, phosphatidylinositol and cardiolipins is 1.59 above the norm; 1.42; and decreases to 1.40 times. In case of poisoning by spectacled snake venom, an increase in the amount of phosphatidylcholine, lysophosphatidylcholine in the blood and liver of rats is observed after delivery of catacin.

Decreases in the amount of phosphatidylethanolamine, phosphatidylinositol and cardiolipins in the body are reduced, but not normalized. Thus, observations confirm that the amount of phospholipids is restored in the case of the use of catacin in the blood and liver of the animal after poisoning with spectacled snake venom.

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