SHORT COMMUNICATIONS

Bites by the Grass Snake *Natrix natrix*

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ABSTRACT. The non life-threatening results of a bite from a grass snake in a 17-y-old patient are described, their significance evaluated, and the hazard of such bites discussed.

Several persons are hospitalised annually in the Clinic of Toxicology in Cracow due to snake bites (1). Such injuries have become an increasingly significant problem, because apart from bites inflicted by our only venomous reptile, the adder *Vipera berus* (1), cases have also been recorded of bites inflicted by extremely venomous species that are illegally imported to Poland and kept in domestic terraria (2, 4). Snake venom is a mixture of numerous organic compounds with differing pathological effects (3, 4). They produce a range of clinical symptoms and manifestations. In reptiles, the salivary glands are located in the upper jaw proximal to the fangs. In many snakes, including those that do not have venom-injecting teeth, the secretion of these glands contains proteolytic enzymes and other enzymes that synergize with the enzymes produced in the various parts of the alimentary tract. Once the secretion gets into the body of a prey, it acts as a poison.

CASE REPORT

A 17-y-old patient reported to the Emergency Department had been bitten by the grass snake *Natrix natrix*, the most common snake in our country. The event took place in a forest in the Saspowka Valley, which is a place where grass snakes abound. The distinctive feature of the grass snake is 2 large semi-lunar and clearly visible bright spots in the posterior part of the head, which give the name to this species in Polish. This feature enabled the patient to recognize and report the species of snake that bit him on the lower left leg above the ankle. About an hour later the boy felt numbness and muscle contractions in his left calf. He reported these symptoms to a doctor who administered an anti-tetanus injection and applied a dressing. The boy was then transferred to the Clinic of Toxicology in Cracow.

In the Clinic, the boy did not present any problems apart from the numbness in the bitten extremity. The patient was in a generally good state of health; local signs and symptoms included 3 puncture marks and tenderness around the site of bite. Due to the fact that that was the first case of a person being bitten by a grass snake and that many snakes of family *Colubridae* have toxic saliva even though they do not possess venom-injecting teeth, a decision was made to observe the patient and perform an in-detail investigation. The results of complete blood count, biochemistry and enzyme tests were within normal ranges. The observation was continued for several hours during which the patient's condition remained good and there were no abnormalities in the results of the laboratory tests performed. After the numbness and muscle contractions in the limb lessened, the patient was discharged from the hospital at his own request under the care of his father.

DISCUSSION

Due to the fact that a snake bite may facilitate the penetration of micro-organisms through the skin into deeper tissues that are more prone to infection, the possibility of wound infections caused by a Gram-negative rod *Morganella morgani* occurring in the mouth cavity of snakes and the fact that in snakes' teeth are subject to continual replacement (therefore some of them are loosely fixed and after the bite residual fragments of the teeth may remain in the wound and cause infection) a follow-up was recommended.

Grass snakes can be found near the banks of ponds and other reservoirs, meadows and swamps as well as at the edges of deciduous forests. Those snakes feed on frogs and fish; they also eat toads, but less willingly but with no clear detriment to themselves. The grass snake does not kill its prey by means of suffocation or with its venom, but it simply swallows the prey completely, which is usually still alive. The long teeth of the posterior portion of the upper jaw, characteristic of this genus, and generally of frog-eating snakes, help it to hold smooth amphibians in its jaws. Grass snakes have such teeth in the upper jaw; they are more or less of the same size; there is no groove or inner canal in them (*aglypha* type). The grass snake is very timid; when handled, it very seldom tries to bite. Its main method of defense is the emitting of a foul-smelling substance produced in the glands located in the anal region. The method of defense is the ejection of the foul-smelling secretion from its cloacal glands. To date, no other case of a human being bitten by a grass snake has been recorded.

REFERENCES

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