Vipera Berus Bite Causing Compartment Syndrome in a 14 year old Boy

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Objective

Vipera berus is a common snake in Austria. Its bites can cause severe symptoms in children, therefore administration of antivenom should be considered early. It is mostly effective when given within 18 hours\(^1\). We report a case of Vipera berus bite in a boy who received no antivenom.

Case Report

A 14 year old previous healthy boy was bitten on the proximal phalanx of the right index finger by a Vipera berus while playing in an alpine pasture in Styria. Shortly thereafter, his father drove him to the nearest regional hospital. Thirty minutes after the bite the boy was admitted at the Intensive Care Unit. Symptoms were: local pain, blue local skin discoloration and edema of the hand (Picture 1).

Treatments were: antibiotics, thrombosis prophylaxis Ivor® 2500 IE (Bemiparin sodium), local cooling, immobilization of the arm. One and a half hours later the patient complained of abdominal cramps and he vomited twice. Ten hours after the bite the edema spread proximally and reached the upper arm (Picture 2).

Laboratory findings were: C-reactive protein 16 mg/L (<5mg/L), leucocytosis 14.26 G/L (4.4-11.3 G/L), prothrombin time 68% (77-100%), international normalized ratio 1.31 (0.88-1.15).

Due to dramatic progression of the pain the boy was treated with analgesics such as Perfalgan® (Paracetamol) and Dipidolor® (Piritramid). During the night he was agitated and therefore treated with benzodiazepine Psychopax® (Diazepam). Ultrasound of the arm excluded a thrombosis.

Two days after the bite the boy was transferred to a University Hospital because the edema spread to the thorax, the pain increased and hyposensitivity in the area of Nervus ulnaris and medianus developed. An acute compartment syndrome was diagnosed.

On day two the Poisons Information Centre was consulted once. The boy’s hand and forearm required emergency fasciotomy. Intraoperatively the nerve of the third finger was cut partially, but could be re-adapted (Picture 3). Surgery had to be performed twice, the wound had to be revised several times leading to vacuum-assisted wound closure therapy.

At the time of discharge the boy still complained of pain, sensory disturbances, joint stiffness, restricted mobility in his right hand and forearm (Picture 4).

Seven months after the bite the functionality of the arm and fingers were normal but hyposensitivity in the area of the scar tissue and the third finger still remained.

Conclusion

In case of snake bite it is recommended to consult the Poisons Information Centre as early as possible in order to decide whether the administration of antivenom is indicated according to the established opinion of experts \(^2\).

References