

CASE HISTORY OF BOOMSLANG (*Dispholidus typus*) ENVENOMATION IN THE EASTERN TRANSVAAL, SOUTH AFRICA

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INTRODUCTION

Bites from the Boomslang, *Dispholidus typus typus* Smith, still remain a rare occurrence, and are today mostly found among people handling the snakes. Being back-fanged, envenomation is hindered and therefore a firm grip is needed on its victim to ensure that the fangs penetrate the skin.

Treatment and case histories of bites from this species have previously been described. Although a full bite from a Boomslang remains a serious event, most victims today survive and death resulting from Boomslang envenomation is rare. This is mostly due to the monovalent, species specific antivenom developed by the South African Institute for Medical Research. This is, however, only available on special request after positive identification has been made of the snake involved and is promptly flown to the relevant hospital.

THE SNAKE

A notably unaggressive, shy diurnal snake that spends most of its time in tree canopies and shrubs. Being arboreal they are normally light to olive brown in the females and a bright green in males. Colour variation, however, is far greater than in an other south African snake and depends on the locality. They are easily distinguished by the enormous eye which is green in colour. Adults average 1.2 to 1.5 m but may attain nearly 2 m in length.

If provoked they might inflate the neck region to more than twice the normal size. The snake will then strike sideways and forward. Boomslangs mainly preys on birds, chameleons and arboreal lizards, etc. (Broadley, 1983).

THE SPECIMEN

Juvenile, wild-caught Boomslang (TL approximately 400 mm)

THE VICTIM

An adult, 34 year Caucasian female, mass 104 kg.

BITE SITE

The victim was bitten, only one fang penetrating the outer surface of the left little finger, on 3 March 1981. The snake was being handled when it suddenly struck at the handlers left hand. The victim had experienced no previous poisonous bites.

SYMPTOMS AND TREATMENT

- 06h45 Immediate bleeding from the bite site. Oral suction was applied.
- 06h55 Burning pain in hand, spreading up into arm. Left for hospital.
- 07h45 Arrived at hospital. Severe pain in arm. Developing a splitting headache and watery blood oozes from the fang puncture. BP 120/70. Pulse 75.
- 08h30 Started intravenous treatment with Normal Saline. BP 120/75. Pulse 72. Victim started to vomit.
- 09h00 Prothombin Index - 0% (normally 100%). Urine tested - blood 4+. Colour of urine like black coffee. Pethedine 100 mg given intramuscular and 1 ampule Maxalon for vomiting. Apply the first unit of human plasma.
- 09h15 Second unit of Saline applied. BP 110/75. Pulse 68.
- 10h30 Second unit of human plasma started. BP 100/70. Pulse 68. Urine 4+.
- 11h15 Left for Johannesburg General Hospital by plane. Intravenous Saline continued on plane. 15 mg morphine given for headache and 1 ampule Valoid for nauseousness.
- 13h40 Arrived at hospital.

14h00 Unable to commence intravenous therapy. BP 90/60 Pulse 48. Vomiting +++. Blood oozing from needle punctures. Prothrombin Index still 0%. Profuse perspiration and nausea.

15h00 Intravenous treatment started on left hand with Saline. BP 90/55. Pulse 48. Vomiting +++. Bleeding from scratch on leg and left ear. Patient on strict intake and output of fluids.

17h00 First 10 ml Boomslog anti-venom injected intravenous over 15 minutes in saline drip. 200 mg Solu-Cortef and 50 mg Pherergan given intravenous. BP 70/35 Pulse 42. Patient sweating ++ Vomiting +++.

17h25 BP 70/35 Pulse 48. Platelet-rich plasma second unit given.

19h00 Second 10 ml Boomslog anti-venom injected with 200 mg Solu-Cortef and 50 mg Phenergan intravenous over 15 minutes. Third unit of Platelet-rich plasma given. BP 75/40. Pulse 48. Prothombin Index still 0%. 10 mg Konaktion given. No appetite.

23h00 BP 90/45. Pulse 54. Another Saline unit as well as the fourth Platelet-rich plasma given. Urine output 0. Lasix 40 mg given intravenous. Headache ++ - Valaron 1/1. Still vomiting for which a Valiod 1/1 ampule was given intravenous.

4 March 1981

00h00 Slept on and off till 04h30.

09h00 BP 100/65. Pulse 58. Prothombin Index 0%. First unit of Blood vit K 100 mg given. Strict intake and output of fluids monitored. Intravenous therapy with Saline continued. Platelet-rich plasma given 6 hourly. Urine still like black coffee. Extensive bruising around the intravenous and injection sites.

15h00 Platelet-rich plasma.

16h00 Second unit blood given. BP 110/70. Pulse 62.

5 March 1981

09h00 Prothombin Index - 11%. BP 110/70. Pulse 64. Saline given intravenous 6 hourly and platelet-rich plasma 8 hourly.

15h00 Saline given. Blood still present in urine.

17h00 Platelet-rich plasma given.

6 March 1981

09h00 Prothombin Index - 25%. BP 110/70. Pulse 66. Saline given 6 hourly and Platelet-rich plasma 8 hourly. Prothombin Index twice daily till discharged from hospital.

9 March 1981

Prothombin Index - 70%

11 March 1981

Prothombin Index 89%

14 March 1981

Prothombin Index 92%. Discharged from hospital.

19 March 1981

Prothombin Index checked - 96% normal.

DISCUSSION

Factors contributing to this case being less serious were probably the relatively small size of the snake and the prompt admission to hospital. Being a keen amateur herpetologist, she was able to identify the snake positively. Bites from this species are known to have delayed onset of symptoms. In this case the onset was fairly rapid, with vomiting after 100 minutes. Rapid symptoms have also been described by Broadley (1957) as well as Pinney (1981), although it can take a longer period (Visser & Chapman 1978, Marais 1985).

It is interesting to note that Broadley (1960) was administered Saw-Scaled Viper, *Echis carinata*, specific antivenom in addition to the polyvalent serum. Viser & Chapman (1978) also report a case where 30 ml *Echis carinata* antivenom was administered. In both those cases Boomslog antivenom had not yet been manufactured, and *Echis* being also haemotoxic, was the only antivenom considered suitable. The monovalent serum available today is highly efficient and normally 2 - 3 ampules (20 - 30 ml) would be adequate. Branch and McCartney (1986) reported

treatment of a Boomslang bite in a sensitive patient where only 2 ampules was used, with andrenalin as a standby.

CONCLUSION

The venom of the Boomslang is haemotoxic and affects the blood clotting mechanism, the most common symptoms being severe headaches, bleeding from the mucous membrane, nausea, vomiting and internal bleeding from the organs. The onset of the symptoms can be very quick, as shown in this case, although it is normally slower, serious symptoms often taking as long as 24 hours to develop.

ACKNOWLEDGEMENTS

The staff of the Phalaborwa and Johannesburg general hospitals.

Gazankulu Nature conservation for their support, especially Mrs W.B. Matthews and Mrs. D. S. Reynolds.

Dr. W.R. Branch for commenting on this manuscript.

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