



PROBLEMS WITH GETTING SERA; RESULTS OF AN ACCIDENT

*J.M.W. Mavromichalis,
Beukenlaan 85,
5741 DX Laarbeek.
Phone: +31-492-465966.*

■ INTRODUCTION

In *Litteratura Serpantium* vol. 16 page 164 and further, I wrote about the difficulties keepers of venomous snakes have to overcome to get sera. Only one person who read my article reacted. His reaction was very important. Bert van de Pijpekamp from Zaandam (Netherlands) told me he owns a snake bite kit containing serum for South Africa. He was willing to sell it to me at cost price. So in 1997 I got polyvalent serum neutralising the venom of the following South-African snakes:

The kit also contained a tourniquet, a pressure bandage, a set to absorb venom from wounds, a sterile needle and a syringe. We had two ampoules, each containing 10 ml serum and clear instructions for medical staff. Bert told me he could get me another set because he had worked in a South-African hospital for a couple of years. During this time he gained a lot of experience with venomous snakes and accidents with these animals. He gave me many advises which proved very important later when I became a witness to an accident. After he had read my article he was convinced I should have the serum ready at home. As confirmed in all reliable literature it is absolutely necessary for keepers of Elapidae to have some serum in stock in case of an unexpected accident.

VIPERS	COBRAS	MAMBAS
<i>Bitis arietans</i> <i>Bitis gabonica</i>	<i>Hemachatus haemachatus</i> <i>Naja nivea</i> <i>Naja melanoleuca</i> <i>Naja haje</i> <i>Naja mossambica</i>	<i>Dendroaspis angusticeps</i> <i>Dendroaspis jamesoni</i> <i>Dendroaspis polylepis</i>

I also want to mention Harm Boerema from Groningen (Netherlands). He provided a lot of literature about venomous snakes, venomous snakebites, and a complete instruction book for doctors handling snakebites. This book tells the doctor step by step what to do in case of bites of various venomous snake species. I also got 148 documented descriptions of accidents with several venomous snake species and the way they ended. I also owned an Aspi-venin bite-set, and a vacuum pump. From an acquaintance I got a dental nurse course. I thought this way of keeping venomous snakes was safe.

■ THE ACCIDENT

A good friend of mine lives in my residential area in Beek en Donk (Netherlands). He and his girlfriend keep venomous snakes. Dennis, aged 24, has kept snakes for many years and venomous snakes for two years. He keeps the venomous snakes in a terrarium that has a push-aside system that had always functioned well. Sunday night the 30th of November, at 00:15 Dennis' girlfriend called me frantically telling me Dennis had been bitten. I got my serum from the refrigerator and hurried to Dennis' house. When I was on my way I realised I didn't know what species had bitten Dennis. His girlfriend told me it was an *Naja mossambica*, and the snake wasn't caught yet. I told her to call for an ambulance immediately. She should tell them a cobra had bitten somebody and they needed help at once. The time was about 00:20. Dennis was upstairs and told me he

had been bitten in his foot. He already had sucked the wound with the vacuum pump, nevertheless the wound still hurt. He still wore his safety glasses (*Naja mossambica* is a spitting cobra) and was trying to catch his cobra with a so-called grab-stick. The animal was very aggressive and was spitting her venom around at the time. I caught the cobra with the grab-stick and put Dennis on the sofa and told him to relax. Then I laid a tourniquet on his knee and a pressure bandage on the wound itself. From the literature I knew he should relax. His girlfriend and I could also keep calm because I had the serum.

At about 00:35 the police officers arrived. They entered the house and I told them the snake had been captured and I had serum. Then they left. At 00:40 the ambulance arrived. They also didn't dare to enter the house until I made them feel at ease. Next they focussed their attention on the patient. Dennis felt a burning pain and his foot was a little swollen. The ambulance crew got angry with me, because I haven't given the serum to the patient. I told them it is very important to read the instructions carefully before dispensing it. Dispensing serum may be dangerous; it may cause a shock. The ambulance crew asked me to accompany them to the hospital because of my knowledge of venomous snakes. Dennis' girlfriend followed with her car. On the way to Eindhoven (Netherlands), near Beek en Donk Dennis started shaking wildly and talking disconnectedly. I concluded the bite was very serious. In spite of the fact that

the wound had been sucked up well, the symptoms of the neurotoxic venom became visible. Perhaps the snake had injected a lot of venom because it is a spitting cobra. Dennis' foot clearly showed two punctures. The ambulance nurses and I decided Dennis should get the serum immediately. Since the ambulance was at full speed it slowed down and the patient got one ampule intramuscular in his right buttock. During this action the other ampule dropped but fortunately it didn't break. Some kilometres farther down the ambulance slowed down again and the patient got his second ampule. We arrived at the Catharina hospital in Eindhoven at about one o'clock. At the Emergency Room nobody knew what to do. We gave them the instructions from the snake bite kit, they faxed it immediately to the Haven hospital in Rotterdam. Dennis woke up a little and said he thought he might die. He complained about a burning pain. His foot turned red and the red spot became bigger. One doctor asked me: "What can we expect from this?" I told him about the results of a cobra bite. I also told him the cobra venom has tissue-destroying qualities. The doctor decided to monitor Dennis at the intensive care room. Handling this way he could keep an eye on the body functions of the patient. His condition deteriorated. He got sick and suffered from growing pain. He complained about a burning pain, even the sheet on his foot hurt. At half past one Dennis' girlfriend and I were told to leave the hospital. A doctor told us they should get more serum as soon as possible. That

night, they had many phone calls all over the Netherlands for this purpose. We were advised to go home. We could call the i.c. every half hour to get information about Dennis' condition. At 3:00 they told us they hadn't found any serum yet. The doctors also called Walter Getreuer, but he couldn't help us because his serum had passed the best-before date. Dennis stayed complaining about the pain, but all the doctors could do for him was giving him some Paracetamol to decrease the pain. This was because the doctors didn't have any experience with a poisoning like this. There was no need for a Tetanus injection. Dennis is a soldier and got a so-called stereo injection. Dennis had been sent out to Africa and because of that he has had some injections also. In the hospital he only got augmented to prevent infections. This cure continued for several weeks. The doctors couldn't help Dennis; they only could let the pressure bandage stay on the bite.

At ten to five the Haven hospital in Rotterdam faxed back to the intensive care. The doctors got the information how they could help Dennis. Serum still had not been found. The Haven hospital advised: do not suck up the wound and do not dispense serum! First wait for eight hours. In my point of view you should dispense serum in case of a bite of *Naja mossaambica*. The venom of this snake is very thin and is absorbed quickly by the tissue. Without antitoxin it may cause a lot of damage on the tissue. In my opinion sucking up the wound was effective because the fangs of this

cobra species are small. The two cups Dennis had sucked up himself resulted in a relatively small impact. My friend has had an awful night with hard to stand pain. After two days he left the i.c. He was brought to a normal hospital room. He served as a research object for doctors who couldn't help him. They thought it was better to wait until they knew the effects of the poisoning. The doctors feared they would have to amputate Dennis' toes, but luckily it wasn't necessary. They drew lines on his leg to mark the "redness border" to see how the venom spread over his leg. Finally the venom reached up to the middle of his lower leg.

After the third day the venom drew back. After four days Dennis could leave the hospital. But he should be careful when using his leg. After two weeks he could walk a little using crutches. The bite became infected in the fourth week. He was treated at the military base because he is a soldier. This time the doctor found another fang in the wound! After that Dennis put his foot into a solution of biotex and in five weeks the wound healed. Today, he's back to work and his foot is OK.



Spitting cobra, *Naja mossambica*. (From: J. Marais, *Fascinerende slangen*, page 15)

■ THE CONTINUATION

In the meantime Dennis has visited the family doctor. He thought Dennis was very lucky because serum had been available. The family doctor gave the instructions from the snake bite kit to the local pharmacy. He had to organise new ampoules. Finally he could deliver for at least FL600 (about 300US\$). They could have been even more expensive. We decided to contact the South African institute ourselves. Wim Daamen, an acquaintance of mine, succeeded. Within

a week he received the serum, packed in three ampoules, for FL700 and kept it in his refrigerator. Dennis also ordered four ampoules, which costed him, FL700 due to a lower US dollar rate. At this moment there are already nine ampoules polyvalent serum South Africa available in the Netherlands. I think it's important that information about suppliers is available for all keepers of venomous snakes. That's why this information is given in the appendix of this article. From now on everybody can order serum for himself. It's a good idea to do this together in order to reduce the carriage costs. Our serum will last till the end of 1999. If you're in trouble, you can always call on us. By now people are trying to get serum for Crotalidae. Our final goal is to realise a serum depot that can prevent people dying from snakebites. In Germany there has been something like that for years. We learned it is very important to have good medical instructions. It saved us four hours.

I hope by writing this article, I have convinced venomous snake keepers to have their own serum in their fridge at home.

■ APPENDIX

I got the serum from:

SA Vaccine Producers (Pty) Ltd. Rietfontein
Box: 28999, Sandringham 2131. South Africa.
Phone (011) 882-9940
Fax: (011) 882-0812

Bank data:
SA Vaccine Producers (Pty) Ltd.
First National Bank
CNR St.-Davidson & Girton Streets
Parktown

*Translation from Dutch by Marcel Schoen
English correction by Chris Mattison*