SNAKE BITES IN CYPRUS

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SUMMARY: Snake Bites are uncommon in Cyprus. Only three snake bites have been recorded in 8 years in UNFICYP. This paper describes two of these cases including clinical effects and treatment.

Introduction

Snake bites are uncommon in service personnel in Cyprus. During the eight years of UNFICYP'S existence, 1964 to 1972, there were only three recorded incidents. The first was a soldier in 1965. The other two occurred in two soldiers of the 3rd Battalion, The Parachute Regiment, on the 11 May and 2 June 1973 respectively. In the previous eighteen months only one other case was admitted to the Royal Air Force (R.A.F.) Hospital at Akrotiri, a R.A.F. corporal whose hobby was the collection and study of snakes. British Military Hospital, Dhekelia has recorded no cases in recent years. The Greek Cypriot Hospital, Limassol recorded an average of 5 or 6 annual cases of snake bite mostly in farm workers. There have been no deaths in recent years.

Venomous snakes in Cyprus

Daudin's viper (*Vipera Lebitina* Fig. 1) is believed to be the only species of snake

Fig. 1. Daudins Viper. Live full grown specimen.

poisonous to man in Cyprus and was responsible for the two cases described. It is "affectionately" referred to as "Kufi" by the local inhabitants.

Vipera Lebitina is found in North Africa, Cyprus, some islands in the Aegean Sea and in West and Central Asia. It has no teeth but has, in its upper jaw, a pair of anteriorly situated, canalised, fangs, which can be up to $\frac{5}{8}$ inch long. These are normally folded backwards up into the roof of its mouth, rotating forwards and downwards when the mouth is opened (Fig. 2). The head is large and triangular with a definite neck and a fat, rather flattened body ending in a stumpy tail. Colouring varies from yellow-grey

Fig. 2. Dead specimen demonstrating anterior fangs.

to slate grey. There is a characteristic V or X behind the head and a zig zag line down the centre of the body. The length of a fully grown Daudin's Viper is $4\frac{1}{2}$ to 5 feet.

The normal diet of this snake consists of mice, rats, lizards and voles, hunting usually taking place at night. It is a ground snake and therefore does not climb. However this snake is dangerous in that unlike other species it does not always move away at the sound of ones approach but relies more on its camouflage for protection as it lies still. Hibernation takes place in Cyprus usually from November to March but may vary with the state of the weather.

Other venomous snakes with fangs situated in the back of the mouth do exist in Cyprus but they are not poisonous to man.

Non-Venomous snakes in Cyprus

These are numerous and very well described by Turk (1958). The local inhabitants of Cyprus encourage the black rat snake (*Coluber Jugularis*) to live in their vicinity by putting out bowls of milk which it comes to enjoy. The logic behind this is that the rat snake will attack and kill *Vipera Lebitina* or at least keep it away from its own territory. Non-venomous snakes will bite but have teeth and not fangs. Normal care of the wound, removal of any teeth left embedded and in intra-muscular injection of tetanus toxoid is all that is required.

Case histories

Case 1

On the 11 May 1972, a bandsman was involved in area cleaning in Polemidhia camp just to the north of Limassol. While pulling up a clump of grass near a bush he experienced a sharp pain in the back of his right hand. Quickly pulling away he found a snake of roughly 4 feet in length, with its fangs firmly embedded in the back of his hand. The snake then withdrew and the bandsman, showing great presence of mind, sat down, applied his lanyard as a tourniquet to his forearm and sent his companion for help. He was carried to the medical centre where he was found to have two, round

puncture marks in the dorsum of his right hand (Fig. 3). There was a little puffiness round the bite even at this early stage and the whole of the dorsum appeared to be extremely tender. The injured limb was splintered and he was then taken by ambulance to the R.A.F. Hospital, Akrotiri. During the journey he began to vomit but did not develop any other systemic manifestations.

In-patient treatment initially consisted of rest in a quiet room, a single intramuscular injection of anthisan, magadon orally and close observation. On the third day he developed a high fever and signs of cellulitis began to appear around the bite. A course of penicillin was commenced and at the same time a tetanus toxoid booster was given. By the fifteenth day his hand was slowly improving but he complained of anaesthesia/paralysis of his right arm almost up to his elbow. This was classical glove and stocking anaesthesia and it was suggested that it was probably hysterical in origin. However the level at which the anaesthesia ended was that at which the tourniquet had been applied. On the 20th day after the incident the bandsman was discharged from hospital. The paralysis had by this time almost completely resolved but the anaesthesia remained static. This progressively improved and three weeks after discharge from hospital the only sequelae remaining were, a slight swelling of the dorsum (Fig. 3) and a just detectable weakness of the grip, all movements being present.

Fig. 3. Right arm of patient. Marker pen showing site of bite. Upper and lower lines showing upper levels of parasthaesia 3 weeks and 4 weeks after bite respectively. Note residual puffiness on dorsum of right hand.

Case 2

A Lance-Corporal was walking back to his billet, on the night of 2 June, in Zyyi Camp (20 miles to the East of Limasol). He suddenly felt a sharp pain in the back of his left calf. Pulling his leg sharply away he turned just in time to see a snake (description inadequate)-disappearing rapidly into the undergrowth. He then walked to the officers mess. The duty medical assistant was called. He washed and splintered the limb and

transferred the non-commissioned officer to Polemidhia Camp there he was seen for the first time about one hour after the incident. In the back of his left calf there were two elongated scratch marks obviously due to his pulling away before the snake had completed its strike. By this time he was suffering from severe cramps in the injured limb and was extremely anxious (but not shocked) he was given 10 mg of Valium intramuscularly and sent immediately to the R.A.F. Hospital, Akrotiri. The only in-patient treatment was rest, regular observations and an injection of a tetanus toxoid booster. He was almost completely symptom free the following day and was discharged as fully fit three days after admission.

Discussion

Biting is a defensive reaction and it is only occasionally that much venom is injected, in fact more than half have minimal or no poisoning (Reid 1968). This is well demonstrated in the two cases described, the latter being one in which a minimal quantity of venom appears to have been injected. Reid suggested that if swelling had not occurred in the first few minutes then it could be safely assumed in the case of a viper bite that little or no venom had been injected (Case 2). Pain although characteristic should be regarded as unreliable in the initial assessment due to the strong psychological upset which follows a bite.

The puncture wounds a short distance apart signify that the snake involved in both cases described above was probably a viper. The bite is followed quite rapidly, usually within half an hour, by severe local pain and swelling (Case 1). The latter may be considerable however, if little or no venom is injected the two puncture wounds may be the only physical sign. The swelling may be followed by discolouration of the spot with the formation of small blisters filled with a sero-sanguinous discharge. Systemic manifestations are rare with *Vipera Lebitina* in Cyprus. However danger signs are early severe vomiting which may or may not be followed by an intense diarrhoea. Vomiting in the absence of severe local signs is most probably psychogenic. Spitting of blood may precede haemorrhagic problems elsewhere which may be as severe as to require transfusion. In general the main problem, most likely to cause concern in Cyprus, is that of secondary infection of dead tissue in the region of the bite.

Treatment

First aid is aimed at calming the patient (Intense apprehension being the rule) and minimising the absorption of venom. Reassurance and relaxation are therefore of primary importance. The region of the bite may be washed with running water to remove excess venom, but otherwise this area should be left strictly alone. A light tourniquet should be applied proximally to the bite although, in viper bites its value is in doubt. It does however make the patient feel that something positive is being done. The affected limb should then be splinted and the patient carried to the nearest medical centre and transferred to hospital.

In-patient treatment consists of sedation and the prevention of secondary infection by administration of a tetanus toxoid booster (In all cases) and penicillin when necessary. Rarely should systemic manifestations occur, or the patient be a very young child, antivenin may be required. This is given in every case in the local hospital but reactions are so common that hydrocortisone is always given in conjunction with the antivenin. Finally blood transfusion may be necessary as previously mentioned. The value of

antihistamines is debatable (George 1972), the response not being as dramatic as one would have expected in view of the type of reaction of the body to snake venom.

Prevention

This paper has been prepared in the hope that it may assist other medical officers who may be coming to Cyprus. Thereby enabling them to warn their battalion commanders that this danger exists and should not be taken lightly.

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