

## A Malayan pit viper (*Calloselasma rhodostoma*) bite in Myanmar

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Malayan pit viper (*Calloselasma rhodostoma*) bite occurred to a young plantation worker of Yae, Mon state was described. He had severe local pain, swelling rapidly spreading from forearm to upper arm, shoulder and right upper chest. Systemic bleeding and neurotoxic symptoms were not detected. Admission blood was clottable. Variable sizes of blister and patchy areas of blackening were developed in right forearm and upper arm. By 6<sup>th</sup> day, extensive sloughing of the wound with patchy area of blackening occurred in forearm, upper arm and right upper chest wall exposing underlying structure. He had a continuous fever throughout the course of illness. Skin grafting attempted twice was unsuccessful. Antibody against Malayan pit viper was detected by enzyme immunoassay on sample taken on 54 days after the bite. Ninety percent of the wound healing occurred 300 days after the bite and led to contracture of the right upper limb.

### INTRODUCTION

Snakebite occurs throughout States and Divisions of Myanmar with the exception of Chin and Kachin. Majority of the bites are due to Russell's viper (90%) and cobra bite constitutes about 4% [1].



Fig. 1. A picture of Malayan pit viper (*Calloselasma rhodostoma*). (Reproduced with the permission of the author, Prof. David A Warrell)

Most medical officers posted throughout the country have seen Russell's viper, cobra and green pit viper and not Malayan pit viper (MPV) (*Calloselasma rhodostoma*) (Fig. 1).

In 1996 we reported the first Malayan pit viper bite in Loikaw, Kayah State, Myanmar diagnosed as a Russell's viper bite and was confirmed retrospectively by detection of specific antibody using enzyme immunoassay technique [2]. In this communication, clinical features of another MPV bite occurred in Yae, Mon State was described.

### CASE REPORT

An 18 yr old young adult of Mon nationality was bitten by a snake of 120cm long at the dorsal aspect of the right mid-forearm while he was picking up nuts from the ground in cashew nut plantation in Yae ye village (off kaw sar road), Yae, Mon State at 11 am on 10 February 1998. The fangs hanged on to the site of bite were removed with difficulty. Following that he noticed bleeding from the local wound. Four hours after the bite, he was brought to Yae Hospital. He was conscious but slow in response to questions and had a tourniquet applied at mid upper right arm. He had severe local pain and swelling of the forearm extending to the arm, shoulder and hand next day. Locally,

signs of inflammation were present. Further extension of the swelling to right upper chest was observed on the following day. The distance between 2 fang marks measured about 25mm. Clinically no features of systemic bleeding nor neurotoxic symptoms were observed. He had a blood pressure of 110/70mmHg and a pulse rate of 100/min. His admission blood was clottable and 6 ampoules of bivalent (Russell's viper and cobra) antivenom were given intravenously 15 minutes following admission. Response to questioning was said to be improved 4hr after the antivenom therapy. Eight variable sizes of blisters (10 to 50mm) and several patchy areas of blackening (about 50mm) appeared on the right forearm and upper arm on the 3<sup>rd</sup> day. Blisters ruptured on next day and wound debridement was performed on those blacken areas exposing raw under surface.

He was admitted to Thanbuzayat Hospital 6 days after the bite with an extensive infected wound measuring 150x75 mm spreading over the right forearm and hand with patchy areas of black discoloration and sloughing exposing underlying structures. He was referred to the orthopaedic unit of Mawlamyaing Hospital next day for skin graft and further management. At admission, the patient had extensive sloughing and discoloration of the whole right upper limb extending from hand to shoulder. Areas of blackening and foul smelling discharge were present. His blood pressure was 110/70mmHg and pulse rate 88/min. He had a continuous fever throughout his stay in the hospital. Skin grafting was attempted twice and failed. A picture taken on 54 days after the bite (Fig. 2) showed extensive sloughing of the skin of the whole dorsal surface of the right upper limb with areas of blackening and granulation. Wound healing had occurred in half of the limb at 75 days after the bite (Fig. 2).

Antibody against Malayan pit viper venom was detected in the serum sample collected

on day 54 after the bite. The patient was discharged from the hospital 83 days after the bite upon request although a complete healing of the wound was not obtained. 90% healing has occurred at 300 days after the bite (Fig. 2). However, contracture of the limb following extensive scarring appeared.



Fig. 2. A picture showing extent of tissue damage in the patient on day 54, 75 and 300 following Malayan pit viper bite.

## DISCUSSION

Although Malayan pit viper bite is common in Thailand, it has not been reported except one earlier report by our group [2]. In our case the victim was a cashew nut plantation worker. Most bites occurred to coffee and rubber plantation workers. Massive tissue destruction involving the whole limb preceded by bullae formation was observed in the present case and was also reported in other MPV bites in Thailand [3]. Clinical features of the patient includes local swelling, extensive necrosis and scarring [4] fits with MPV bite rather than Cobra which the victim claimed for the bite. In the early phase of envenoming, patient may present with clottable blood indicating defibrination has not developed yet which may explain the admission clotting status of the patient. However, if we have monitored the clotting state of the patient, we would have come across a state of defibrination. This extensive tissue sloughing without neurological deficit makes one suspicious of MPV bite that we have encountered before.

Although the inflicted snake could not be identified, retrospective detection of specific antibody by enzyme immunoassay confirmed the diagnosis.

It is possible that MPV could have been imported from Thailand through Myanmar-Thai border. Our medical officers are not aware of existence of MPV in Myanmar and these cases could easily be missed and treated as Russell's viper bite since the patient presented with incogulable blood as in the earlier case [2] or cobra bite as in this case with clottable blood at admission. Extensive tissue necrosis should make one suspicious of MPV bite especially in plantation workers living near Myanmar-Thai border. Only monospecific MPV antivenom should be used for treating specific bite. Russell's viper and cobra antivenom are of no value and should not be given.

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*rhodostoma*) venom.

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