

CASE REPORT

Prolonged Coagulopathy, Ecchymoses, and Microangiopathic Hemolytic Anemia Following Hump-Nosed Pit Viper (*Hypnale hypnale*) Bite in Sri Lanka

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A 74-year-old previously healthy woman was bitten by a hump-nosed pit viper (*Hypnale hypnale*) at dusk causing incoagulable blood lasting for 6 days. Further, she developed ecchymoses over her forearms, upper arms, hands, and lower back on day 4 after the snakebite, and microangiopathic hemolytic anemia (MAHA). Features of this nature are rare after hump-nosed pit viper bite.

Keywords: snakebites, hump-nosed pit viper, *Hypnale hypnale*, ecchymoses, coagulopathy, microangiopathic hemolysis

Introduction

Hump-nosed pit vipers of the genus *Hypnale* are the most common cause of all snakebites in Sri Lanka,¹ causing 22 to 77% of all snakebites.^{2,3} There are 3 species of genus *Hypnale*. *H. hypnale*, *H. zara*, and *H. nepa* have been identified in Sri Lanka,⁴ and, of them, the latter 2 are endemic to the island. *H. hypnale* is also found in the Western Ghats of India. The manifestations of local envenoming, such as pain, swelling, hemorrhagic blistering, and necrosis after hump-nosed pit viper bites are well described in the literature.^{5–8} Moreover, systemic manifestations such as coagulopathy, acute kidney injury, chronic kidney disease,^{6,9–13} thrombotic microangiopathy,¹³ ischemic stroke,¹⁴ inferior myocardial infarction, atrial fibrillation, and cardiac arrest¹⁵ have been described, which qualified it as a highly venomous snake. Extensive literature searches on the effects of envenoming by hump-nosed vipers did not find situations of appearance of ecchymotic patches

similar to this case described from the wet zone of Sri Lanka.

Case Report

A 74-year-old previously healthy woman with a history of snakebite was transferred from a primary hospital to the Provincial General Hospital, Ratnapura (PGHR) for further management. The formalin-preserved offending snake specimen was sent along with the patient. The history goes 3 days back when she was bitten by a snake on her right foot at about 1900 hours in her home garden. Without any delay, she was admitted to the nearest primary hospital where the offending snake was identified as hump-nosed pit viper by the attending medical officer. She was in severe pain and had developed swelling at the bitten site with bleeding from the fang puncture. The 20-minute whole blood clotting test (WBCT20) was positive, and she continued to bleed from the venipuncture sites. She was kept at the primary hospital for 3 days, and on day 4, as she developed ecchymotic patches on both forearms, upper arms, hands, and the lower back, she was transferred to the PGHR. She was not taking any long-term medication, including herbal medicines. There was no past or family history of abnormal bleeding tendency.

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Figure 1. Necrosis, swelling, and blistering at the site of bite on the right foot on day 4 after snakebite.

On admission to the PGHR, the patient had necrosis, moderate swelling, and blistering over the right foot (Figure 1).

There was bleeding from venipuncture sites but the patient had normal-colored urine. Her blood pressure

(BP) was 130/80 mm Hg and her pulse rate was 80 beats/min. Respiratory rate was 15 breaths/min and examination of the respiratory system, nervous system, and abdomen revealed no abnormality. Patches of ecchymoses were observed on both forearms, upper arms, hands, and left lower back side (Figure 2).

Investigations were as follows (Table). Urine full report and electrocardiogram (ECG) were normal. The WBCT20 on admission and subsequent readings of 6 hourly intervals remained nonclotting for 48 hours (altogether, 6 days). Blood picture done on admission (day 4 after snakebite) showed normochromic normocytic red cells, many polychromatics, acanthocytes, and a few fragmented red blood cells (schistocytes) suggestive of microangiopathic hemolytic anemia (MAHA) (Figure 3).

She was treated with intravenous administration of 3 packs of fresh frozen plasma (FFP) daily for first 2 days.



Figure 2. Ecchymoses on day 4 after snakebite on A, left lower back side; B, left upper arm; and C, left forearm.

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