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CASE REPORT

SPIDER BITE IN SRI LANKA: TWO CASE REPORTS OF ENVENOMATION BY TWO TARANTULA SPECIES

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Abstract

Spiders belong to the class Arachnida in the phylum Arthropoda. Although the bite of the spider is feared as much as that of venomous snakes in Sri Lanka, spider bite related deaths are not reported in this country. A 43-year-old patient presented with local swelling, pain, bleeding from puncture site and muscle cramps after a *Poecilotheria subfusca* (Ivory-billed ornamental or montane tiger spider) bite; and a 45-year-old patient presented with numbness, burning pain and muscle cramps after a *Poecilotheria fasciata* (Ceylon Hunting Spider/Ornamental Tarantula) bite. Both patients recovered completely without residual effects.

Keywords: *Poecilotheria subfusca*, *Poecilotheria fasciata*, serotonin, histamine

Introduction

Although more than 40,000 species of spiders have been identified all over the world, only a few are venomous[1]. Spiders belong to the class Arachnida in the phylum Arthropoda. Except for a few groups in the arachnid family, all others have venom glands, but a majority do not bite, because most spider fangs are too small to penetrate human skin [1,2]. Deadly venomous spiders with highly toxic venom pharmacology are mostly found in Latin America and Australia. The Brown Recluse Spider *(Loxosceles* spp.*),* Black Widow Spider *(Latrodectus* spp.*),* Funnel Web Spider (*Atrax* and *Hadronyche* spp.) and Tarantula Spider (*Poecilotheria fasciata*) are considered as venomous species[1,3].

In 2013, a case of ornamental Tarantula (*Poecilotheria fasciata*) spider bite and muscle cramp was reported from Karainagar in the Jaffna peninsula [3].

A prospective study of 750 definite spider bites in Australia indicated that 6% of spider bites cause significant effects[4]. In Sri Lanka, venomous spiders are called Divi Makuluwa in Sinhala and Nachchu Silandhi in Tamil dialect. There is existing data on venomous spiders and their envenomation in Sri Lanka[3]. Despite a few published case reports [3,5], scientific studies have not been conducted on the characterization of clinical features following spider bite in Sri Lanka. This paper emphasizes two case reports of envenoming by two species of Tarantulas; *Poecilotheria subfusca* and *Poecilotheria fasciata* in Sri Lanka.

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Case Report 1

A 43-year-old driver presented on 23/12/2013 to Base Hospital, Deniyaya, with pain, swelling and bleeding from his left ring finger after a spider bite.

The spider on a bush had been disturbed unintentionally by the victim, while the victim was cutting grass to feed his cows. The offending spider had immediately jumped on to the patient and had bitten his finger. The patient had noticed local bleeding from the punctured finger, which became swollen and tender. The offending spider was killed and brought to the hospital for identification (Figure 1a). It was identified as *Poecilotheria subfusca*, commonly known as Ivory-billed ornamental or montane tiger spider.

Twenty four hours after the incident the patient developed vomiting and muscle spasms over the left upper limb. Apart from frequent alcohol consumption he had no significant prior medical history. On physical examination his blood pressure was 110/70mmHg and pulse rate was 80 per minute. Examination of all systems was normal, except for the tender and swollen left ring finger. He had no physical signs of systemic coagulopathy. While in the ward he experienced muscle cramps of the left upper limb. Blood investigations results were as follows: Alanine transaminase-32 U/L, white blood count-6800/mm^3, heamoglobin-15 g/dl, platelet count-190,000/mm^3 and serum creatinine-0.8mg/dl. There were no abnormalities in the urine full report or ECG. Four days after incident he recovered fully with treatment with paracetamol, chlorpheniramine, diazepam, domperidone and multivitamin tablets.

Case Report 2

This patient was a 45-year-old housewife who was admitted to the Base Hospital, Deniyaya, with a spider bite on her right middle finger, which she had sustained while cleaning the garden on 16/07/2015. Soon after the incident she had experienced pain, a burning sensation, numbness and swelling of right middle finger. After 24 hours, she developed muscle cramps of all four limbs. Physical examination revealed that her blood pressure was 140/90mmHg and pulse rate was 72 per minute. Blood investigations were as follows: Alanine transaminase-33U/L, white blood count-9900/mm^3, haemoglobin-11.7 g/dl, platelet count-232,000/mm^3 and serum creatinine-0.7mg/dl. The urine full report and ECG were also normal. The patient was treated with prednisolone, paracetamol,

Figure 1: (a) Spider – Case Report 1: Ventral view of dead specimen of *Poecilotheria subfusca* (Ivory-billed ornamental or montane tiger spider), body length; 7.5cm and leg span; 19cm, (b) Spider – Case Report 2: Dorsal view of living specimen of *Poecilotheria fasciata* (Ceylon Hunting Spider/Ornamental Tarantula), body length; 7cm and leg span; 17.5cm

chlorpheniramine and calcium lactate, and she made an uneventful recovery. The live specimen (Figure 1b) of the offending spider was brought to the hospital by the patient, and it was released to a forest after identifying the species as *Poecilotheria fasciata* (Ceylon Hunting Spider/ Ornamental Tarantula).

Discussion

In the villages of Sri Lanka the bite of the spider is feared as much as that of venomous snakes [5]. Envenoming by the Ceylon Hunting Spider (Ornamental Tarantula), *Poecilotheria fasciata* (figure 1-b), a hairy arthropod has been reported in this country [3,5]. Kottegoda studied the pharmacology of the Ceylon Hunting Spider, *Poecilotheria fasciata* and detected 5HT (serotonin) and histamine in the venom [5]. Necrotic and neurotoxic activity, acute renal failure, rhabdomyolysis, pulmonary edema and intra-vascular hemolysis have been reported after medically significant spider bites[1].

The severity of envenomation is dependent on the amount of venom injected and the type of offending species. Dinamithra et al., have reported an envenoming by *Poecilotheria fasciata* in Sri Lanka, where the patient presented with local pain and muscle cramps, that responded to intra venous calcium gluconate infusion[3]. Washing the bite site, analgesics and antihistamines may be used for mild cases. So far, spider envenoming with severe complications in Sri Lanka have not been reported in the literature, and most cases have presented with local pain, swelling and muscle spasms[3,5]. Local bleeding and muscle spasms were seen in Case Report 1 discussed above. However, documented clinical evidence regarding spider envenoming, with characterization of clinical features of different species in Sri Lanka is limited; further research and scientific data will allow for more specific treatment with spider antivenom, which however may also be more expensive.

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