

COBRA BITES and THEIR MANAGEMENT

Naja naja (Linnaeus, 1758)

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Introduction

The Spectacled Cobra, *Naja naja* (Linnaeus, 1758), is the only recognised species of cobra in Sri Lanka. Earlier it was thought that a subspecies (*N. naja naja*) inhabited the Island, but now the one species is known to be distributed in many Asian countries including Sri Lanka, India, Pakistan, Southern Nepal, and Bangladesh.

It is a hooded, easily recognisable elapid snake widely distributed in all peneplains of Sri Lanka, except at the highest altitude where the ambient temperature is low. Non-aggressive by

... exclusive daytime biting, female preponderance, fatal upper limb bites, many bitten at or near dwellings ...

nature, the spectacled cobra bites less frequently than the Russell's viper on the island but causes significant morbidity and mortality. This article is based on a study performed to



describe the epidemiology, clinical features, management, and outcome of cobra bites over a period of many years (Kularatne et al, 2009), as authentic epidemiological and clinical data regarding cobra bites in Sri Lanka was poor at the time, with only a description of two cases published in 1990 (Theakston et al, 1990).

Adult patients (>12 yrs) with a proven history of cobra bite (n=25) admitted to two hospitals—in Anuradhapura, in the dry zone, and Peradeniya, in the up county wet zone—were studied. Twenty victims who were envenomed were analysed.

Demography and epidemiology

More females than males were bitten, the ages ranging from 13 to 70 years. Most of the bites were in the daytime (6 am to 6 pm) and half

of the bites were within the victim's home compound or nearby. There were more bites to the lower limbs than the upper.

Clinical manifestations

Five patients had 'dry bites' with no local or systemic envenoming, despite the presence of fang marks. The majority (20) had local reactions, a few (9) developed neurotoxicity and

a minority (3) had transient coagulopathy with positive 20WBCT but no spontaneous bleeding manifestations.

In 8 patients the local reaction was severe with extension of the swelling and development of tissue necrosis—in the upper limbs and the lower, four each. Two of the upper limb bites were complicated by compartment syndrome; in the other two cases the necrosis involved the entire upper limb and within 36 hours it had spread to the chest wall.

Management

All envenomed patients received Indian polyvalent antivenom in doses ranging from 8 to 20 vials. Those with tissue necrosis received surgical treatment for de-sloughing and those

Nearly half the patients with neurotoxicity developed rapid-onset respiratory muscle paralysis and required intermittent positive pressure ventilation (IPPV). One patient developed both respiratory paralysis and necrotic local envenoming.

with compartment effects had decompression of affected compartments. Four patients with respiratory failure were managed with IPPV in the ICU.

Recommendations

☞ Dry bites will be encountered; a majority of those envenomed will develop local reactions that may progress to tissue necrosis and compartment syndrome—with disproportionately severe pain and tenderness in the swollen limb, weakness of intra-compartmental muscles, hypoesthesia of respective dermatomes of intra-compartmental nerves, and weak or absent distal arterial pulsation. In such

☞ Patients with symptoms of neurotoxicity should be closely observed as they may develop rapid-onset respiratory paralysis. They

☞ Antivenom should be given as soon as local envenoming is detected, even in the absence of systemic effects as, if left untreated, much tissue destruction may result. The standard dose is 10 vials of the

☞ The 20WBCT may be positive (incoagulable blood) with no

cases, surgical treatment should be prompt—the compartments affected need to be de-compressed, necrotic

Antivenom should be given even for local envenoming alone, in a dose of 10 ampoules

tissue debrided, and the raw area skin grafted in time.

should be managed with intermittent positive pressure ventilation. The respiratory paralysis is likely to be of short duration (18-24 hrs).

Indian polyvalent antivenom available in hospitals. In most instances one dose will suffice. However, if the local reaction is not arrested and shows progressive extension, the dose may be repeated.

signs of bleeding followed by spontaneous resolution.

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