Case Report

Snake Bite at an Unusual Site – A Case Report

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Abstract

Since the dawn of civilization, snakes have inspired a mystical feeling in humans. In India popular folklores and deep seated superstition have attributed both divine and evil qualities to snakes. There are about 3500 known species of snakes in the world, of which less than 350 species are venomous[1]. In India approximately 200,000 numbers of cases of snake bite are reported each year, out of which 45,000 to 50,000 are fatal[2]. Here we present one such case of death due to snake bite of an elderly male aged 75 years, at an unusual site – i.e. scrotum. The patient presented with ptosis and respiratory distress was hospitalized and succumbed after three hours.

Key words: Snake bite, Scrotum, Venomous.

Introduction:

Snake bites have been reported from virtually every part of the world, except in countries of Ireland, New Zealand, Greenland, Iceland and Antarctica where snakes (especially venomous snakes) are relatively rare. The incidence of serious bites is significantly higher in tropics than in industrialized nations of the West. This is exemplified by the fact that while the USA records 6,000 to 8,000 venomous bites per year, with mortality ranging from 5 to 15 deaths[1], India records about 200,000 bites, of which 45,000 to 50,000 end in death[2]. In Britain, hardly 200 bites are reported each year, and only 14 deaths have occurred in last 100 years[1].

Most of the bites are reported from rural parts. India and its surrounding seas are inhabited by more than 60 species of venomous snakes some of these cause frequent bites and envenoming[3]. Four species, common krait (Bungaruscaeruleus)), spectacled cobra (Najanaja), Russell's viper (Daboiarusselii) and saw-scaled viper (Echiscarinatus) are distributed throughout the country and have long been recognized as the most important causes of bites, deaths and disability[4]. Most of the bites, two third are said to be due to saw-scaled viper, while one fourth of the number is due to Russell's viper; cobra, krait, pit viper, account for only small number of cases[5]. In India, Maharashtra records the high incidence of snakebites- more than 1000 bites per year[1].

WHO classifies Indian snakes of medical importance into 3 classes[1].

- Class I: commonly cause death or serious disability: Cobra/ Russells Viper/ Saw scaled Viper.
- Class II: uncommonly cause bites but are recorded to cause serious effects (death or local necrosis) Krait/ King cobra.
- Class III: commonly cause bites but serious effects are very uncommon.

The snakes can bite anywhere on the body. In our case it was scrotum – an uncommon site.

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Case Report:

A 75 yr old elderly male was brought to KIMS Hospital Hubballi, with alleged history of snake bite on left side of scrotum, while he was sitting in squatting position and plucking brinjal in the fields in the evening. Following the bite, there was local bleeding and he had two episodes of vomiting. He was taken to a local doctor and later was brought to KIMS, Hospital Hubballi. On admission, he presented with difficulty in breathing and ptosis. Local examination showed bite marks over ventral aspect of scrotum with swelling and small amount of bleeding. Intubation was done following respiratory distress. The whole blood clotting time at the time of admission was <20 minutes. Routine investigations were done and the results were as follows: Urea - 28 mg/dl, Creatinine - 0.9 mg/dl, Sodium -136 mmol/L and Potassium - 4.6 mmol/L. It was diagnosed as a case of snake bite with neuroparalysis. The following treatment was - Injection ASV 10 vials in 500 ml of Normal Saline was started after test dose, Injection Atropine 2 cc i.v. stat, Injection Neostigmine 2 cc i.v. stat, Injection Tetanus Toxoid 0.5 cc i.m. stat. The patient survived for three hours on admission and later succumbed.

On post-mortem examination, the elderly male was found to be moderately built and nourished with post-mortem staining present over back of the body and post-mortem stiffening present all over the body.

The external injuries noted were as follows:Discoloration of skin over an area measuring 6cm x 4cm present over left side of scrotum, which on careful examination showed two punctured wounds. Further dissection of the wound showed extravasation of blood in the underlying subcutaneous tissue (as shown in Figure 1.) Other internal findings noted were bilateral pleural and pulmonary adhesion to the chest wall. All organs were intact and congested. Stomach contained 50 ml of brown fluid.

Skin from scrotum, heart, pieces of both lungs and kidneys were preserved and sent for histopathological examination. The microscopic features noted on histopathological examination were as follows: Sections from skin showed ulcerated stratified squamous epithelium with sub - epithelial tissue showing congested blood vessels and edema. Sections from both lungs showed interstitial and intra - alveolar edema with rupture of alveoli (as shown in Figures 2 and 3). Sections from different areas of heart unremarkable. Sections from coronaries and aorta showed atherosclerosis. Sections from kidneys showed bilateral focal chronic pyelonephritic changes with hyaline arteriosclerosis of blood vessels. The histological examination was suggestive of ante - mortem features. On perusal of post-mortem and histopathological examination report, the cause of death was opined to be- Death due to respiratory failure as a result of snake bite injury sustained.

Figure 1. Photograph showing the bite site

Being a country with large rural proportion depending on agricultural activities, encounters with snakes are part of rural folk's life in India. Similar case of snake bite to scrotum was reported by Jawaharlal Nehru Medical College, Aligarh Muslim University, where the deceased was a male from rural area who sustained snake bite to scrotum while sleeping on a terrace[6]. Other unusual sites of snake bites reported are over female external genitalia, scalp and face[7]. Many of these snakes bites encountered in fields can be prevented.

Figure 2.Histopathology of Skin – Ulcerated stratified Squamous epithelium with subepithelial tissue showing congested blood vessels and edema.

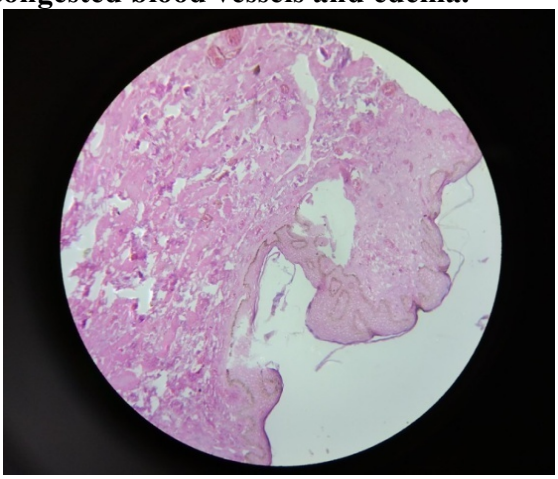
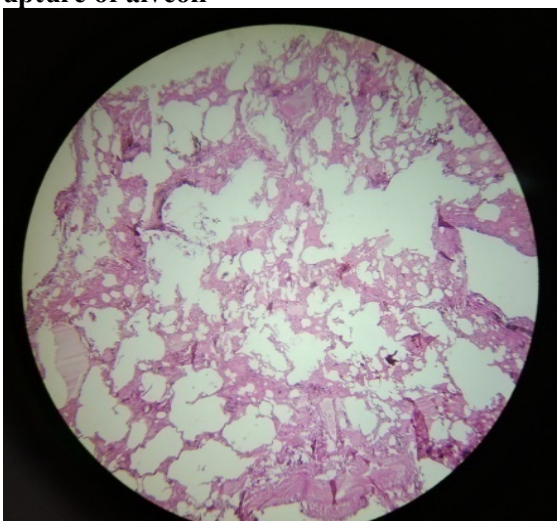


Figure 3. Histopathology of Lungs – Interstitial and intra alveolar edema with rupture of alveoli



Snakebite in India is an occupational and environmental hazard mainly affecting rural agricultural workers and their families. Prevention is of utmost importance. Like any forms of health promotion, community education by all available means and media play a vital role. The aim is to alert communities to the types of environments most frequented by dangerous species, and to advise them as to how to avoid being bitten. For example, cobras are most commonly found near water or in irrigated paddy fields, while Russell's vipers frequent these areas especially at times of harvest when rodents are most abundant. The most dangerous times of year are usually during the monsoon and summer[5].

In our case, wearing of full clothes (undergarments) could have prevented the injury. Wearing of shoes, carrying torch or flashlights while working in fields amidst tall grass and weeds.Due care has to be taken while collecting firewood, and moving logs, bricks, rocks, boxes or debris which are likely the hiding places for snakes.Sleeping on the ground at nights has to be avoided, use of repellents and attempts to catch snakes should not be made.

Conclusion: People particularly of rural areas, being illiterate and ignorant are unaware of the complications of the injuries they sustain at fields.Almost all the snake bites reported around the world are accidental in nature and the vast majority are due to inadvertent or deliberate provocation of snake by human.Scrotum is a very rare and unusual site for snake bite.

There are numerous superstition associated with snakes and people still rely on traditional measures as the first line of treatment and valuable time is lost before the patient is brought to hospital. Communities should be persuaded to abandon their preference for traditional treatments and, instead, to transfer bite victims to dispensaries, clinics or hospitals as quickly as possible. Steps must be taken to improve the medical treatment of snakebite (including the effectiveness and safety of antivenoms) to generate confidence in modern medicine. Prevention is always better than cure; the public must be educated regarding measures to prevent the snake bites. Immediate and timely treatment can save the lives after accidental snake bites.

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