



## The Surgical Manifestations Of Vasculotoxic Snake Bites

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### Abstract

Commonly encountered vasculotoxic snake bites are caused by Russell's viper, Saw Scaled Viper, and Pit viper. There are various local manifestations in these cases. These local manifestations ultimately land up into surgical manifestations.

### Aims:

To study the surgical manifestations of Vasculotoxic Snake Bite

### Materials and Methods:

This is retrospective study conducted between May 2021 to May 2022 at a tertiary health care center of South India.

### Result:

A total of 350 patients were studied in our hospital. Out of 350, 200 patients were of vasculotoxic snake bite and remaining 150 patients were of non-poisonous, mixed poisonous and neuroparalytic snake bite.

### Conclusion:

Vasculotoxic Snake bite is a commonly associated with cellulitis. Delayed treatment is associated with other surgical manifestations.

**Keywords:** Vasculotoxic bite, cellulitis, tissue necrosis

### Introduction

India is the country which accounts for maximum yearly snake bite cases worldwide. Cobra, Russell's viper, Saw Scaled Viper, pit viper and Krait and commonest snakes associated with poisonous bites<sup>1</sup>. World mortality due to snake bite is estimated as 50,000 to 1, 00,000 annually. But number of reported snake bite death occurring in Indian subcontinent is 10,000 to 15,000 annually<sup>2</sup>. In India are maximum cases are from Bengal, Uttar Pradesh, Tamil Nadu, Bihar, and Maharashtra<sup>3</sup>.

### Materials And Methods

The present descriptive observational study is carried out in medicine wards of tertiary care hospital of, South India during May 2021 to May 2022. A total of 200 cases of vasculotoxic snake bite were admitted in wards during the study period. After obtaining consent, data was collected on pre-designed, pretested, and structured questionnaire by interviewing the study subjects who were hospitalized during the study period.

### Inclusion Criteria:

1. Confirmed vasculotoxic snake bite as of screened by 20 minutes whole blood clot time.
2. Admitted and treated at our institute.

**Exclusion Criteria:**

1. Uncertain snake bite

2. Neuroparalytic bite, dry bite and mixed feature bites

3. Non admitted and other institute treated cases.

**Results**

**Table 1 Age-wise prevalence of poisonous snake bites**

Age	Number of cases	Percentage
18-30	40	20
31-50	140	70
51-60	16	08
Above 60	4	02

**Table 2 Surgical signs of vasculotoxic snake bites**

Signs	Number of patients	Percentage
Cellulitis	200	100
Gangrene	40	20
Necrosis	18	09
Compartment syndrome	120	60
Blistering	24	12
Tender lymphadenopathy	64	32

**Table 3 Incidence of management of vasculotoxic snake bite**

Management	Number of patients	Percentage
Medical	200	100
Active Surgical intervention	158	78

**Table 4 Surgical interventions done in patients**

intervention	Number of patients	Percentage
Glycerin magnesium sulphate dressing	200	100
Povidine dressing	64	32
debridement	18	9
fasciotomy	120	60

**Discussion**

Age-wise prevalence of poisonous snake bites:

In our study 70 percent of cases were in the age group of 31-50 years of age. The probable reason being more time spent in outdoor activities. Our study correlates with the study done by study of Russel *et al.*<sup>4</sup>, where maximum numbers of cases of snake bite were seen in fourth and fifth decade of age group. Very few cases were seen in above 70 age group.

### **Surgical signs of vasculotoxic snake bites**

In our study cellulitis was the commonest sign and was seen in all 200 patients. the second common manifestation was compartment syndrome and was seen in 120 patients. Tender lymphadenopathy over drainage site was seen in 64 patients. 40 patients had gangrene. Wound blistering was seen in 24 patients. Wound necrosis was seen in 18 patients. Similar findings were seen in the study done by Bawaskar HS *et al*<sup>5</sup>.

### **Incidence of management of vasculotoxic snake bite:**

In our study all the patients were initially treated with medical management. They all were treated with injection anti-snake venom. Active Surgical management was needed in 164 percent of cases. These were the patient with tissue necrosis, cellulitis, gangrene, and blistering and compartment syndrome. Our findings correlate with the study done by Bhat RN<sup>6</sup>.

### **Surgical interventions done in patients**

In our study all patients had cellulitis initially. They all were treated with glycerin magnesium sulphate dressing. This had very good outcome. Many patients improved with this intervention. Similar result was noted in study done by Majumder D *et al*<sup>7</sup>. povidine dressing was done in 64 cases. This included cases with blistering, debridement was done in 18 cases who has gangrene and necrotic changes. Similar intervention was done in study done by Nuchprayoon I *et al*<sup>8</sup>. Fasciotomy was done in 120 cases. these patients had severe compartment syndrome. Similar interventions were done in study by Ramachandran S *et al*<sup>9</sup>.

### **Conclusion**

Cellulitis is the most common surgical manifestation in patient with vasculotoxic snake bite. Least common manifestation is wound necrosis. Early intervention helps in prevention of necrosis and tissue loss.

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