

## Snake Envenomation - Case Report

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Morbidity and mortality depends on the age and size of victim.[5] The specific therapy for snake bite is ASV. Anti-snake venom (ASV) are immunoglobulins prepared by immunizing horses with the venom of poisonous snakes. antivenoms should be lyophilized to maintain stability.[6] ASV can be administered either by slow intravenous injection at a rate of 2 ml/min. Coagulopathy usually reverses after ASV treatment. In exceptional cases, when there is severe bleeding or when urgent surgery is necessary, restoration of coagulability can be accelerated by giving fresh frozen plasma, cryoprecipitate (fibrinogen, factor VIII), fresh whole blood, or platelet concentrates.[7] As most snakes harbor aerobic as well as anaerobic bacteria in their mouths, a prophylactic course of penicillin and a single dose of broad spectrum antibiotic course which will cover anaerobes together with a booster dose of tetanus toxoid is recommended.[8] Acute renal failure occurs in about 20% snake bite patients.[9] Such patients need dialysis for management of acute renal failure. Scarcity and delay of administration of antivenom, and difficulties with transportation from rural areas to health centers are major factors that contribute to the high case-fatality ratio of snakebite envenomation.[10]

### CASE REPORT

A 43 year old female, who was bitten by a snake at around 6:30 pm was brought to the emergency department of hospital. The patient was at home outdoor and suddenly had snake bite. She saw a small yellowish snake moving away from the scene. On general examination, there was bleeding

### ABSTRACT

Snake bite should always be considered as a medical emergency. Snake venoms are categorised based on different types of toxic components present in it. Venomous snake bite can affect nervous system as well as normal hemostasis. The most important thing to do for a snake bite is to get emergency medical help as soon as possible. The goals of pharmacotherapy are to neutralize the toxin, to reduce morbidity, and to prevent complications.

**Keywords:** *envenomation, toxin, hemostasis, emergency*

### INTRODUCTION

Snakebite envenoming is a potentially life-threatening disease that typically results from the injection of different toxins following the bite of a venomous snake. Snake bite is a well-known occupational hazard amongst plantation workers and other outdoor workers and results in morbidity and mortality throughout the world. The toxic component of snake venom can be classified into four broad categories: enzymes, polypeptides, glycoproteins, and compounds of low molecular weight.[1] The main targets of isolated enzymes from snake venoms are cell membranes, vascular wall and blood coagulation cascade [2,3]. Proteolytic enzymes isolated from snake venoms were identified as  $\alpha$ ,  $\beta$  or  $\gamma$  fibrinogenases depending on their ability to hydrolyze the fibrinogen *in vitro* [4]. The clinical presentation of a snakebite victim varies with the age and size of the patient, the species of snake, the number and location of the bites, and the quantity and toxicity of the venom.

from the wound. There were two bite marks. There was swelling of bitten limb – (L) leg. The patient was found to have no known comorbidities. Her leg was already tied and taken to nearby hospital where she was given inj.TT and referred to this hospital.

Laboratory data – INR(4.86), APTT (32 / 41.3), PT (13.5/44.3), K (3.4), CPK(95).

Treatment was started, without any delay, with polyvalent antivenom as per the protocol of our hospital. Test dose of ASV- 1 vial in 100ml N.S over 15 minutes. Later patient was started on 5 vials of ASV in 500ml N.S over 1 hour. The patient developed itching and urticaria over plantar surface, neck surface and upper chest. Then the infusin stopped and inj. Hydrocort 100mg I.V stat and inj. Avil 2U I.V stat were given. As a result, pruritis subsided. By the 2<sup>nd</sup> day, patient had received 10 vial ASV in 100ml N.S. On the next day, she had received 18 vials ASV. Local reactions decreased and severe coagulopathy persisted. Thus, inj.Vit.K 1 Ampule was administered. The next day her clotting time was found to be normal, and from then on it remained normal. Hence, the patient was subsequently discharged after being fully recovered.

### DISCUSSION

Snake venom contains several types of polypeptide toxins, of which the neurotoxins produce paralytic effect by binding to presynaptic and post synaptic sites at neuromuscular junction.[11] In this patient, INR was found to be higher.

Snake venoms target mainly hemostatic systems. The most prominent clinical syndrome is coagulopathy, which was found in this patient. After few days of treatment, the patient's coagulation profile came back to normal values. Inj. Ceftriaxone 1 gm B.D was given for potential sepsis. The patient was discharged home in a good general condition with no residual functional loss or disability. Polyvalent ASV is relatively safe, and allergic reactions after ASV injection can be prevented by premedication with adrenaline, IV hydrocortisone and antihistamine.[12]

### CONCLUSION

Timely administration of intravenous polyvalent ASV, proves to be life saving in all such cases. Antivenom administration should be considered in patients with envenomations complicated by marked and progressive local signs, delayed systemic signs and laboratory abnormalities more than 24 h after envenomation despite administration of earlier dose.

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