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Case Report

Fanged encounter: A case report of snakebite on the tongue

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ABSTRACT

Snakebites are uncommon but potentially life-threatening events that can result in a range of clinical manifestations, often dependent on factors such as the snake species, venom potency, and bite location. While snakebites affecting limbs and exposed body parts are more frequently encountered, snakebites directly to the tongue represent a rare and intriguing clinical scenario. This case report presents a unique case of snakebite to the tongue, emphasizing the significance of early recognition, appropriate medical intervention, and the need for comprehensive snakebite education, even in regions with low snakebite incidence.

1. Introduction

Snake bites, though relatively rare in many parts of the world, present a unique and often life-threatening medical challenge. Venomous snake bites can lead to a wide range of clinical manifestations, depending on the species of snake, the quantity and potency of the venom injected, and the location of the bite.[1] While envenomations to extremities and other exposed body parts are more commonly encountered, snake bites to the tongue are exceedingly rare and pose distinctive diagnostic and therapeutic dilemmas.

In this case report, we present a remarkable and unusual case of a snake bite occurring directly on the tongue. This incident, while a rare occurrence, highlights the importance of early recognition, appropriate medical intervention, and the need for comprehensive education about snakebite prevention and management, even in regions with low snakebite incidence.

Through this case report, we aim to contribute to the growing body of literature on snakebite envenomations, specifically focusing on the rare and intriguing presentation of snake bites to the tongue.[2–4] The objective of this report is to provide healthcare professionals and the broader medical community with insights into the clinical presentation, management, and outcomes associated with snake bites to the tongue. This information may be invaluable in enhancing our understanding of these unique cases, facilitating timely and appropriate intervention, and improving patient outcomes in similar circumstances.

2. Case Report

In 2016, a 26-year-old male patient reported to B. J. Medical College, Sassoon General Hospital, Pune, India, two weeks after sustaining a snakebite to his tongue. According to the

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patient's history, the bite occurred while he was handling a venomous snake. The patient promptly lost consciousness and was transported to a primary health care center in Satara, Maharashtra where he received emergency care.

Figure 1: Initial lesion after the snake bite on tongue

Figure 2: Lesion resolving 2 weeks after the initiation of treatment

Within 15 minutes of envenomation, the patient exhibited symptoms of tongue swelling, hypotension, and respiratory depression. As per the history given by the patient and the medical records available, tongue envenomation, caused intense pain and started swelling immediately along with bleeding. Profuse bleeding and swelling on the tongue caused difficulty in intubating the patient. When the patient was brought to emergency casualty, the patient was partially conscious although unable to speak. Upon inspection, the tongue was tender to palpate and movement was greatly restricted by the swelling and severe pain. He presented moderate respiratory distress with almost complete occlusion of the upper respiratory tract due to marked lingual and perioral edema. The medical team secured his airway and performed nasal intubation. Emergency drugs, including anti-snake venom, were administered. In total, 30 vials of polyvalent antivenom for the 'Big Four' venomous snakes in India were given intravenously over 60 minutes, along with antihistamines and corticosteroids. The patient was connected to a ventilator within 45 minutes following the bite. The oxygen saturation levels were restored and maintained. The patient had regained consciousness and was able to follow commands.

Viper venom is vasculotoxic and has severe necrotizing local effects. The presentations can be local or systemic. In our case the patient was showing signs of local swelling and necrosis of tongue, bleeding from the puncture site and tenderness on palpation. Taste sensation was affected to some extent. After 24 hours, the patient still displayed a prolonged coagulation profile and elevated neutrophil count, but they became normal after 72 hours. Following recovery and repeated oral examinations, the patient was discharged from the hospital on the seventh day after admission.

Remarkably, this was the patient's second snakebite episode; a few years earlier, he had been bitten on the knee. His past medical and dental histories were unremarkable. At the time of reporting to the department, he was conscious, cooperative, and well-oriented. Extraorally, no significant findings were observed. However, intraoral examination revealed a necrotic and discolored anterior region of the tongue covered with a whitish slough. The lesion was approximately 7.5cm x 5cm, involving the mid-dorsal region of the tongue and extending to the ventral surface also. Tongue movements were not affected. The patient's tongue mobility remained good, although his sense of taste was affected.

Routine blood investigations, including complete blood count, blood sugar levels, and renal and liver function tests, were within normal limits. Given that the patient had already undergone medical management, he was kept under observation for two weeks to monitor lesion regression. Two weeks after the initial examination, the lesion appeared to be resolving. The necrosed region of the tongue reduced in

size bordered by pinkish mucosa margins. After this period, the lesion size had reduced, and further active management was deemed unnecessary. The patient was scheduled for a one-month follow-up, but regrettably, he did not return.

3. Discussion

Snakebites predominantly affect the extremities, such as the limbs, hands, and feet. Envenomation of the tongue is exceedingly rare and represents an unusual anatomical location for a snakebite.[2–4] The tongue is a muscular organ with an extensive vascular supply, making it a potential target for venomous snakebites. This case underscores the unpredictability of snakebite presentations and the need for healthcare providers to be prepared for unusual clinical scenarios.

The successful outcome of this case can be attributed to the early and comprehensive medical management provided to the patient. Within 15 minutes of the snakebite, the patient exhibited severe symptoms, including tongue swelling, hypotension, and respiratory depression. The medical team's swift response in securing the patient's airway, nasal intubation, and administering emergency drugs, including polyvalent antivenom, played a crucial role in stabilizing the patient. The use of polyvalent antivenom raised against the Indian 'Big Four' venomous snakes was particularly relevant in this context, given the diversity of venomous snake species in the region.[5,6]

The administration of 30 vials of polyvalent antivenom over 60 minutes was a pivotal component of the patient's treatment plan.[7] This intervention effectively countered the envenomation effects and likely prevented further progression of tissue necrosis. Antihistamines and corticosteroids were also administered to manage hypersensitivity reactions and inflammation associated with snake envenomation.[8]

Intraoral examination revealed necrosis and discoloration of the anterior region of the tongue, covered with a whitish slough. Despite these findings, the patient's tongue maintained good mobility. The impact on taste sensation, while expected, did not compromise the patient's overall quality of life. This highlights the remarkable ability of the tongue to adapt and recover, even in the face of significant envenomation-related tissue damage.[9]

It is noteworthy that the patient did not return for the scheduled one-month follow-up, despite improvements in the lesion. This underscores the need for patient education and engagement in their healthcare.[10] Follow-up visits are essential to monitor the progress of healing, assess for any complications, and ensure that patients are recovering satisfactorily.

4. Conclusion

The present case report documents a rare and unique presentation of snakebite-induced tongue envenomation. It underscores the importance of early and comprehensive medical management, including the timely administration of polyvalent antivenom and adjunctive therapies. The successful outcome of this case demonstrates that prompt medical intervention can salvage vital anatomical structures, such as the tongue, and minimize the need for surgical intervention. This case also highlights the need for continued research, awareness, and education regarding snakebite management to reduce morbidity and mortality associated with snake envenomations, especially in atypical anatomical locations.

Clinical significance and outcome- The cytotoxic, hemotoxic, and neurotoxic effects of venom can cause a variety of local soft tissue and systemic complications. Surgical interventions such as fasciotomies, wound debridement, skin grafts, and tissue flaps may be necessary in these patients to optimize functional and aesthetic outcomes. Tongue being a very rare site for snake evenomation, very less literature is available regarding surgical management of tongue. In our case, in follow up visit it was noted that necrosed lesion tongue was resolving well reuiring no further surgical intervention.

5. Source of Funding

None.

6. Conflict of Interest

None.

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