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Rare Complication Following The Bite Of A Russell Viper-A Case Study

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Abstract: *Envenomation resulting from snake bite is an important public health problem in tropical countries like Southeast Asia and throughout Indian subcontinent. Snake bite is associated with myriad of complications that can be life threatening .We hereby report a 23 year old countryman who was bitten by Russell's viper and was treated with antivenom and other medications. Although he recovered from the acute effects, he remained feeling unwell and was diagnosed one month later with hypopituitarism, an unusual complication of endocrine system. Replacement started with essential hormones such as hydrocortisone and Levo-Thyroxine.*
Keywords: *Hypopituitarism, Russell's viper*

I. Introduction

Snake bites are well known medical emergencies in many parts of the world especially in tropical countries, including India. Nearly 216 species of snake identifiable in India, of which 52 are known to be poisonous. The major family of snakes in India are Elapidae which includes common Cobra, king Cobra and Common Krait, Viperidae includes Russell's viper , saw scaled viper and pit vipers and hydrophiidae (sea snake). Different species of snake bite are associated with different clinical features, although there may be considerable overlap in presentations. To diagnose the species of snake responsible for the bite for optimal clinical management, a syndromic approach have been developed by WHO . Snake bites are associated with various complications. Here we discuss a very rare complication of hypopituitarism in a patient of Russell's viper bite. (10)

II. Case Report

A 23 year healthy male patient was admitted to our hospital with the history of being bitten by a Russell's Viper in the left foot while returning from the fields in the evening. Initially the patient noticed only mild pain and swelling at the site of bite but half an hour later , he complained of vomiting, headache, weakness and frothing from the mouth, for which he was taken to the local hospital. There he lost consciousness. He was given 10 vials of Anti –Snake Venom (ASV) and was referred to our hospital. The patient, a well built young man, presented to our hospital twelve hours after the incident in a stuporous state with cool extrimities and sweating. There was no pallor, cyanosis, jaundice, clubbing, engorged neck veins or any lymphadenopathy. There was local swelling at the site of the bite which was tender to touch. Pulse was 98/min, BP-124/76 mm/Hg and respiratory rate was 50/min , regular, abdomino –thoracic and shallow and basal crepitations present over both the lung fields. No bleeding from any site was noted. However, his 20 min Whole Blood Clotting Time was prolonged and routine urine examination showed presence of red blood cells. ASV was reinstituted and neostigmine challenge was done. His blood urea was 37 mg%, Creatinine 1.96 mg%,aPTT was 24 sec and PT was 16 sec. Liver function test showed a total bilirubin of 1.2 mg% with slightly elevated liver enzymes. The patient's sensorium improved. In addition IV antibiotics were given along with repeat doses of ASV. The 20 min WBCT normalized by 2 days, neostigmine with glycopyrrolate was tapered off within 5 days and was discharged in stable condition after 7 days.

The patient presented to the OPD for follow-up 2 weeks alter and complained of mild swelling in the bitten foot, lethargy,mild headache, loss of apetite, weight loss, but did not complain of any syncope. Examination revealed pulse of 76/min,BP of 80/46 mm Hg measured in both arms in sitting position. His supine BP was 90/60 mm Hg and standing BP after 3 minutes was 68/40 MM Hg. Taking his past history into consideration, a complete blood count, blood urea, serum creatinine, electrolytes, liver function test along with serum T3,T4, TSH , 8 AM Cortisol and ACTH levels were asked for. The reports showed normal counts. Blood 8 AM Cortisol was 27.28 ng/ml , paired ACTH was 11.60 pg/ml , Blood T3,T4, TSH were 1.63 ng/ml, 10.36 microg/dl and 0.26 micro IU/ml. MRI of the brain and pituitary revealed normal study. A diagnosis of post Russell viper bite pituitary apoplexy was made and the patient was put on hydrocortisone replacement (20 mg in the morning and 10 mg in the evening)along with fludrocortisone 0.1mg followed 1 week later by Levo-

Thyroxine replacement. The patient's lethargy, loss of apetite improved remarkably and his blood pressure stabilized and did well in subsequent follow-ups. (10)

III. Conclusion

Russell's Viper (Daboia russelii , D. siamensis) are one of the most dangerous snakes in all of Asia including India, accounting for thousands of death per year. It has a myriad of presentations and complications, among which , coagulation disorder dominates the clinical picture. Others include hypertension, renal failure , neurological manifestations, leading to severe morbidity and mortality. Our patient suffered from both neurotoxic and hematotoxic features immediately after the event and presented 2 weeks later with features of pituitary insufficiency. Hypopituitarism is a rare complication of Russell's viper bite due to impairment of both pituitary and the hypothalamus. 49 cases of hypopituitarism following Russell's viper bite have been described in the literatures.(1). A few cases of hypopituitarism and pituitary necrosis following envenoming by Russell's Viper resembling Sheehan Syndrome have been reported from various southeast Asian countries including Srilanka, India and Myanmar.(2,3,4) Diagnosing hypopituitarism in a case of Russell's viper envenomation requires a strong clinical suspicion for this rare complication. Subtle clinical features such as loss of apetite and hypotension with normal pulse rate and without any symptom of orthostatic hypotension or hyperpigmentation should raise the suspicion of hypoadrenalism. In the background of snake bite, such a presentation should click the suspicion of hypopituitarism.

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