

A Case Snake Bite Provoked Thyroid Storm

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A 25 year old female Mrs. Pramila Rajule. a mother of two children, was brought to the the casualty by her husband on 7th August, 2012, at around 11 AM, following history of snake bite, approximately six hours earlier, around 5.30 AM in the morning. The snake bit her on the face below her right eye while she was fast asleep on the floor. The detailed description of the snake was not available, but the snake was definitely noticed. There was history of blurring of vision, drooping of eyelids, breathlessness, frothing from mouth. There was no h/o bleeding from site of bite, unconsciousness. Patient had no h/o hypertension, diabetes, tuberculosis. When first seen in casualty she had a high grade fever. She was disoriented, agitated and irritable with a pulse rate of 160 per minute. She was also noticed to have bilateral ptosis and ophthalmoparesis. She was immediately admitted to the ICU for further management. On admission her BP was 120/60 mm of Hg, her respiratory efforts were poor and she had difficulty performing the single breath count test. She did not have pallor, icterus, oedema feet, jugular venous pressure was not raised. On systemic examination, air entry was decreased bilaterally, crepitations were present bilaterally, tachycardia was present, first heart sound was loud, soft nontender liver was palpable, spleen was not palpable, she was disoriented and irritable. As a result she was immediately intubated and mechanical ventilation was initiated. She received 50 units of anti-snake venom after test dosing. Her ptosis and ophthalmoparesis slowly recovered, but her tachycardia, agitation and fever persisted. She was also subsequently noticed to have a thyroid swelling. As her ptosis gradually disappeared it was realised that she, in fact, actually had exophthalmos. A detailed past history did not reveal any significant history of anxiety, nervousness, agitation, palpitations or menstrual complaints. However, in view of a clinical scenario of thyrotoxicosis treatment of thyroid storm was started. Simulataneously, her thyroid profile was sent, which

revealed a T3 level of >800 ng/ml, T4 >30 microg/ml and TSH < 0.01mIU/ml. Her ultrasonography thyroid was suggestive of colloid goitre. Her electrocardiogram showed a sinus tachycardia with an incomplete right bundle branch block, with a heart rate of 140 per min. Thus the diagnosis of thyroid storm was confirmed and the patient was started on, Tab. Propylthiouracil (600 mg loading dose) 300 mg four times a day, Tab. propranolol 40 mg thrice a day, Syp. Iodine, Inj. Hydrocortisone 100 mg six hourly. Meanwhile, mechanical ventilatory support and other supportive measures were continued. The patient gradually responded over a period of seventy two hours and was weaned off the ventilator and shifted to general ward. All in all, the clinical picture was suggestive of thyroid storm. The patient was discharged on antithyroid medications was stable at the time of discharge and subsequent followup. The stress and anxiety of the snake bite was the most probable cause which precipitated the thyroid storm, in an erstwhile, clinically unmanifested patient.



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DISCUSSION

In the spectrum of endocrine emergencies, thyroid storm ranks as one of the most critical illnesses. The incidence of thyroid storm has been noted to be less than

10% of patients hospitalized for thyrotoxicosis; however, the mortality rate due to thyroid storm ranges from 20 to 30%. Thyroid storm presents as a life-threatening exacerbation of hyperthyroidism, accompanied by fever, delirium, seizures, coma, vomiting, diarrhoea, and jaundice. Thyroid storm is usually precipitated by acute illness (e.g., stroke, infection, trauma, diabetic ketoacidosis), surgery (especially on the thyroid), or radioiodine treatment of a patient with partially treated or untreated hyperthyroidism. Management includes identification and treatment of precipitating cause with supportive care and reduce thyroid hormone synthesis. Propylthiouracil (600 mg loading dose and 200–300 mg every 6 h) should be given orally or by nasogastric tube

A saturated solution of potassium iodide (5 drops every 6 h), or ipodate or iopanoic acid (500 mg per 12 h), may be given orally. It blocks thyroid hormone synthesis via the Wolff-Chaikoff effect. Propranolol should also be given to reduce tachycardia and other adrenergic manifestations (40–60 mg PO every 4 h; or 2 mg IV every 4 h). Additional therapeutic measures include glucocorticoids (e.g., dexamethasone, 2 mg every 6 h), antibiotics if infection is present, cooling, oxygen, and intravenous fluids.

REFERENCE:

Thyrotoxicosis and Thyroid Storm: Bindu Nayak, MD, Kenneth Burman, MD
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