

Ward Round - Seizures, tremor and muscle weakness 20 years after thyroid surgery

Peter Banda, Theresa J Allain

1. Department of Medicine, College of Medicine, Blantyre, Malawi.

Corresponding author: Dr Peter Banda: npkbanda2000@yahoo.com

Clinical presentation

A 32 year-old carpenter was admitted to the medical ward at QECH with a 1 month history of fever, weight loss, a sore mouth and pain on swallowing. He had recently tested HIV positive but was not taking antiretroviral therapy or cotrimoxazole prophylaxis. On Initial examination he was sweating, febrile, temperature 38.2°C and tachypnoeic, RR 32/min. Other vital signs were unremarkable; BP 120/80 mmHg, PR 84/min, regular, O₂ saturations on room air 95%. His oral mucosa was erythematous with 2 small ulcers on the palate. There were no physical signs suggestive of a focus of infection. According to local guidelines he was treated with intravenous penicillin and gentamicin for presumed sepsis, fluconazole for possible oral/oesophageal candida and started on cotrimoxazole prophylaxis. He remained febrile, his antibiotic regime was changed to ceftriaxone but his fever persisted

On subsequent review a more detailed history and examination were taken which revealed that he also had neurological problems. He described the onset of a coarse tremor 3 months previously, at the same time he developed generalized body pain, numbness of the hands and feet, muscle weakness and fatigue which had become so severe he was now unable to stand or even sit unaided. He had had 3 grand mal convulsions prior to admission and further convulsions were witnessed on the ward. He had long standing anorexia, constipation, cold intolerance and poor libido. He had a thyroidectomy at the age of 12 years for goiter and had no contact with clinical services between then and the current admission. He left school at the age of 16 years, and reported he was a good performer at school. He was married with seven children, occasionally drank locally made beer (chibuku and kachasu), and smoked 3 cigars per day. There was no history of TB contact.

On examination he was pale with facial and periorbital oedema and a husky voice. There were no cataracts. He had a neck scar consistent with thyroidectomy. Cardiovascular, respiratory and abdominal examinations were unremarkable. He was mentally alert. There was no nystagmus or dysarthria. There was proximal muscle wasting and muscle tone appeared low- he was unable to sit unsupported or stand despite relatively preserved muscle power (4/5 in all limbs). Tendon reflexes were normal and were not slow relaxing. He had spasmodic involuntary movements of the limbs, both at rest and on movement. Chvostek's (facial twitching in response to tapping of the facial nerve) and Trousseau's signs (carpopedal spasm when a blood pressure cuff is inflated above systolic pressure for 3 minutes) were positive.

Investigations

Investigations were directed towards possible neurological, metabolic and endocrine diseases, as well as the cause of his

Figure 1a CT brain scan

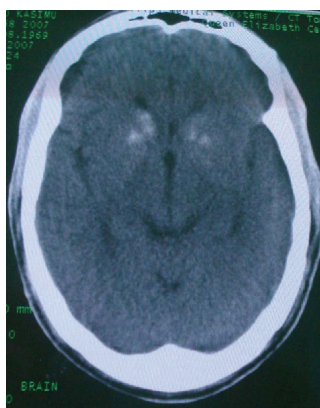


Figure 1b CT brain scan



fever.

- FBC: Hb 8.6 g/dl, MCV 90 fl, WBC 8.6 X10⁹/l, platelet 610 X10⁹/l
- Urea 23 mg/dl (5-13), creatinine 1.6 mg/dl (0.6-1.2),
- Serum calcium (corrected) 1.95 mmol/L (2.2-2.4), phosphorus 5.2 mg/dl (2.1-3.8)
- Thyroid function: TSH 23.4 mu/l (0.3-6.4), fT₃ 0.3 ng/ml, fT₄ 4.3 ug/dl (4.8-11.6).
- Blood culture- no growth, malaria parasites- negative, LP- failed attempt
- CXR- enlarged cardiac silhouette, clear lung fields,
- Transthoracic echocardiogram: 2cm pericardial effusion with fibrinous strands and no cardiac tamponade
- CT scan brain (figure 1a and 1b) Calcification of basal ganglia and subcortical white matter

What are the most likely causes of his neurological abnormalities and pericardial effusion?

What treatments does he require?

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Figure 2

