THYROID STORM PRESENTING AS TACHYCARDIA IN A POSTOPERATIVE PATIENT

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ABSTRACT
We report the case of a 60 year old female, diabetic, who underwent an orthopaedic surgery for femur fracture, referred to us for persistent unexplained tachycardia. Evaluation suggested hyperthyroidism. Patient went into thyroid storm which was successfully managed with antithyroid medications, steroids and supportive care. We report this case to emphasise the fact that a high index of suspicion is required for prompt recognition and effective management of unusual presentation of thyroid storm especially in patients with no past history of thyroid dysfunction.

Keywords: Thyroid Storm, Hyperthyroidism

INTRODUCTION
Thyroid storm is a life threatening disorder of 10-30% mortality (Tietgens et al., 1995) even in best centres. It is seen in patients with less compliance in taking anti thyroid medicines and post surgery especially, thyroid surgeries. With no history of previous hyperthyroidism and only subtle signs as in this case it is easy to miss the diagnosis of this potentially fatal condition and any delay in treatment decrease the chance of survival.

CASES
A 60 year old female, known diabetic on oral antidiabetic agents for 10 years was admitted following a fall. She had fracture of neck of left femur. She underwent hip replacement arthroplasty next day. Following the surgery she was found to have persistent tachycardia and was referred for medical evaluation for tachycardia. She was not giving any history of weight loss, increased appetite, tremor or palpitation. On examination grade 1 non tender thyroid swelling (palpable but not visible) was present. There was no tremor, exopthalmos or pretibial myxedema. Pulse rate was 140/mt, BP 140/60, Spo2 98% and temperature normal. ECG was suggestive of sinus tachycardia. Her postoperative pain was well covered with analgesics and there was no significant volume loss or dehydration to account for tachycardia. A thyroid function test was done in view of persisting tachycardia which showed Ft3 -11.23 pg/ml (Normal 2-4.4 pg/ml), Ft4 of 4.18 ng/dl(0.9 - 1.71 ng/dl) and S TSH of 0.009 µIU/ml(0.27 - 4.2 µIU/ml ) suggestive of severe hyperthyroidism. Blood routine, renal function tests was normal .RBS was 170 mg%. D dimer was elevated. No fat globules in urine.USG thyroid showed diffuse mild enlargement. Patient was started with antithyroid medication Neomercazole 20 mg qds, Propranalol 40 mg qds and steroids hydrocortisone 100 mg iv Q 8hrly (Langley et al., 2003). We could not give lugols iodine drops as it was not available in the local market. About 6 hrs after surgery she started to develop fever, and disorientation. Next day patient developed signs of cardiac failure. She was treated with diuretics. After about 4 days of treatment patient became better and later discharged on antithyroid medications.

DISCUSSION
Thyroid disorders are common in our country. Thyroid storm is a grave thyroid emergency which requires prompt recognition and immediate treatment. It can present in non thyroid related surgery as in our case.
It is unclear why certain factors result in the development of thyroid storm. Hypotheses include a rapid rate of increase in serum thyroid hormone levels, increased responsiveness to catecholamine and enhanced cellular responses to thyroid hormone (Greenspan, 2001). Post operative tachycardia can be due to many causes like anxiety, pain, dehydration, volume loss during surgery, drug related, dyselectrolytemia, sepsis, pulmonary / fat embolism etc. Hyperthyroidism should also be considered once the common causes are ruled out. A thyroid function test may not be available off working hours in most of the centres which delay the diagnosis.

Iodine drops which helps in rapid control of symptoms, by blocking the release of hormone from the thyroid, is may not be locally available in most centres as in our case. As antithyroid drugs take some days for proper control of hyperthyroidism, supportive treatment is very important. Steroids are given for associated adrenal insufficiency and also reduce T4 to T3 conversion. Rate control can be achieved with beta blockers. There is no lab diagnosis for thyroid storm. However, Burch and Wartofsky (1993) introduced a scoring system using precise clinical criteria for the identification of thyroid storm (Burch and Wartofsky (1993). This includes fever, tachycardia, cardiovascular, central nervous system and gastrointestinal manifestations and precipitating factors. A score of 45 or more is highly suggestive of thyroid storm. A score of 25 to 44 is suggestive of impending storm. Where as a score below 25 makes thyroid storm unlikely. In our patient the score was 85.

REFERENCES