

CASE REPORT

H. MOLE WITH HYPERTHYROIDISM: DILEMMA FOR EMERGENCY SURGERY

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HOW TO CITE THIS ARTICLE:

Nidhi Arun, Arvind Kumar, Sangeeta Pankaj, K. H. Raghwendra, Vijayanand Choudhary. "H. Mole with Hyperthyroidism: Dilemma for Emergency Surgery". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 31, July 31; Page: 8682-8685, DOI: 10.14260/jemds/2014/3106

ABSTRACT: H. mole can cause severe gestational hyperthyroidism, as molecular variant of human chorionic gonadotropin found in molar pregnancies have increased thyrotropic potency. High index of suspicion for hyperthyroidism should be kept in mind for the patients with GTD. Early diagnosis, effective management and preparedness to anticipate and manage perioperative complications before posting the patient for any surgical procedure avoid complications. We describe a case report of successful anesthetic management of young female with complete H. mole with incidentally diagnosed hyperthyroidism, posted for emergency D&E.

KEYWORDS: H. Mole, Hyperthyroidism, emergency surgery.

KEY MESSAGES: All patients with GTD should be screened for hyperthyroidism by history, clinical examination and laboratory investigations beforehand. In emergency scenario, patients with biochemical hyperthyroidism without any sign and symptom of thyrotoxicosis may be taken up for surgery with preparedness and back up facility.

INTRODUCTION: Gestational Trophoblastic Disease (GTD) encompasses a spectrum of proliferative abnormalities of trophoblasts associated with pregnancy. One of the histological types of GTD is Hydatidiform mole (H. mole). H. mole is an abnormal condition of the placenta, where there is partly degenerative and partly proliferative changes in the young chorionic villi, resulting in formation of clusters of small cysts of varying size. It is best regarded as a benign neoplasia of the chorion with malignant potential.

The incidence of molar pregnancies in India is about 1 in 400.¹ It predominantly affects younger women and presents with vaginal bleeding, most of the time.² Hyperthyroidism is a rare but known complication of GTD, with highest incidence in patients of complete mole. There are only few case reports in literature of this association³. When it is present, it can be severe and potentially life threatening. We describe a case report of successful anesthetic management of a young female with complete mole and hyperthyroidism, posted for dilatation and evacuation (D&E) of uterine cavity.

CASE HISTORY: 19 years old female primigravida, weighing 48kgs visited emergency department of our institute with complaints of 4 month amenorrhoea, lower abdominal pain and active vaginal bleeding. On examination she was anxious, pale, her heart rate (HR) was 112/min and blood pressure (BP) was 100/70 mm of Hg. On per abdomen examination her uterus was enlarged and palpable.

Her urine pregnancy test was positive and serum β human chorionic gonadotropin (hCG) level was 2,50,000 mIU/ml. Urgent bed side ultrasonography (USG) showed distended uterine cavity, which was filled with echogenic soft tissue mass that had small cystic component. This finding was most compatible with complete molar pregnancy. High index of suspicion of associated hyperthyroidism was kept in mind and thyroid profile was investigated. Her $T_3 = 1.85\text{ng/dl}$, $T_4 = 29\ \mu\text{g/dl}$ and $\text{TSH} = 0.04\ \mu\text{IU/ml}$.

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Apart from tachycardia, which might be due to active per vaginal blood loss and pain, there was no other history and clinical features suggestive of clinical hyperthyroidism. Her Hb% = 7 gm%. Other biochemical parameters were within normal limit. She was posted for emergency D & E.

Tab Neomarcazole 10 mg, though limited effect was given through ryle's tube. Two units of fresh properly grouped and cross matched blood, devices to secure airway and stand by ventilator were kept ready. Two wide bore 18 G cannula was placed in both hands. Monitors i.e. pulse oximeter probe, non-invasive blood pressure (NIBP), ECG and temperature probe (for early detection of rise of temp) were placed. Dexamethasone 8 mg was given intravenously.

Patient was induced with Fentanyl 80 µgm (2µgm/kg) and incremental dosing of Propofol (total 60 mg) with humidified O₂ supplementation through nasal cannula at the rate of 4 L/min. Then patient was placed in lithotomy position, taking care of all joints and D&E was performed. Injection Esmolol was kept ready for emergency, to manage thyroid storm. After the procedure injection Oxytocin 10 units was given in slow infusion.

Throughout the patient's vitals were stable. Then the patient was shifted to ICU for next 24 hours and monitored for features suggestive of thyroid storm and per vaginal bleeding. Postoperatively the patient was again evaluated for thyroid profile (FreeT₃ = 3.58 pg/ml, FreeT₄ = 1.58ng/dl and TSH = 0.12 µIU/ml, βhCG = 129821.79mIU). Tab Neomarcazole (5mg) was started 8 hourly. Her ICU stay was uneventful and she was shifted to ward and was advised to visit Obstetrics & Gynaecology OPD with fresh report of thyroid profile after 7 days.

Follow up	T ₃	T ₄	TSH	βhCG
After 7 DAYS	0.47ng/ml	8.2 µg/dl	0.78 µIU/ml	40151mIU/ml
After 15 DAYS	1.58ng/ml	11.7 µg/dl	6.99 µIU/ml	3342.4mIU/ml
After 30 DAYS	1.15ng/ml	9.8 µg/dl	3.63 µIU/ml	803.76mIU/ml

DISCUSSION: Our patient with complete H. mole, hyperthyroidism, active per vaginal bleeding and decreased haemoglobin level (7 gm%), was posted for emergency D&E. We did not have much time to make patient euthyroid before the procedure. Other important fact was, thyroid hyper function in molar pregnancy is attributed to excess of hCG, which has a weak intrinsic thyroid stimulating activity.

Molar thyrotropin differs from hCG by being larger in molecular size and longer in duration of action.⁴ Gliener had estimated that "for every 10, 000 mIU/ml increase in serum hCG level, free T₄ increases by 0.1ng/dl and TSH decreases by 0.1 mIU/ml).⁵

Hyperthyroid state can range from asymptomatic elevation of thyroid hormone to thyroid storm. In a review of 196 patients from United Kingdom treated for GTD between 2005 and 2010, biochemical hyperthyroidism was present in 7% and clinical hyperthyroidism in only 2%.⁶

In this patient there was not any history and clinical feature suggestive of hyperthyroidism except for tachycardia and anxiety, which might be due to ongoing per vaginal blood loss and lower abdominal pain.

Due to high index of suspicion, she was screened for hyperthyroidism and found to have elevated serum T₄. In such patients development of hyperthyroidism is largely influenced by the level of hCG and usually resolves with treatment of GTD and normalization of hCG level.⁷

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Although there was risk of high cardiac output failure, hypertension, thyroid storm, pulmonary oedema, embolisation of pulmonary artery by Trophoblastic material and hypovolemia⁸, we decided to go for emergency D&E with preparedness to manage such complication.

We were ready with devices to secure airway, stand by ventilator, two 18 G cannula in situ, two properly grouped and cross matched fresh whole blood in hand(to restore volume) and injection Esmolol. Though of limited benefit, anti-thyroid drug (tab Neomercazole) was given through ryle's tube and intravenous Dexamethasone 8 mg was administered to prevent peripheral conversion of T₄ to T₃.

To conclude, high index of suspicion for hyperthyroidism should be kept in mind for the patients with GTD. All patients with GTD should be screened for hyperthyroidism by history, clinical examination and laboratory investigations beforehand. Early diagnosis and effective management of hyperthyroidism before posting the patient for any surgical procedure avoids perioperative complications. In emergency scenario, anesthetic management of patients with biochemical hyperthyroidism can be managed successfully with proper planning, preparedness and back-up facility.

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Date of Submission: 04/07/2014.
Date of Peer Review: 05/07/2014.
Date of Acceptance: 15/07/2014.
Date of Publishing: 31/07/2014.