

Hyperthyroidism in Gestational Trophoblastic Diseases: A Number of Cases

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Abstract

Approximately 0.2% of pregnancies are complicated by hyperthyroidism. Graves disease accounts for 90% of these cases. Gestational trophoblastic disease is a rare cause of hyperthyroidism in which high levels of hCG cause activation of the thyrotrophin receptor and stimulate supraphysiological secretion of thyroid hormone. The hCG levels are particularly high at 10–12 weeks gestation, in trophoblastic disease. Some of the patients of hydatidiform mole may exhibit signs of hyperthyroidism due to high levels of hCG.

We report a case series of four women with gestational trophoblastic disease along with clinical as well as biochemical hyperthyroidism resolving after treatment of GTD.

Key words: hyperthyroidism, Gestational Trophoblastic Diseases, BhCG, hydatidiform

Introduction

Approximately 0.2% of pregnancies are complicated by hyperthyroidism. Graves disease accounts for 90% of these cases. Gestational trophoblastic disease is a rare cause of hyperthyroidism in which high levels of hCG cause activation of the thyrotrophin receptors and stimulate supraphysiological secretion of thyroid hormone. The hCG levels are particularly high at 10–12 weeks gestation, in trophoblastic disease. Some of the patients of hydatidiform mole may exhibit signs of hyperthyroidism due to high levels of hCG.

We report a case series of four women with gestational trophoblastic disease along with clinical as well as biochemical hyperthyroidism.

Case Reports

Case 1

A 35 years old, G2P1+0 who presented through emergency at 11⁺⁴ weeks with excessive vomiting for one week. She was diagnosed as a case of molar pregnancy with hyperthyroidism at Peshawar and came for further management. On examination her pulse rate was 120 / minute and fundal height was three weeks larger than dates. Ultrasonography revealed a complete mole and haematological investi-

gations showed raised T3, T4 with suppressed TSH levels (Table I).

Case 2

The second patient was a 25 years old housewife, Primigravida who presented at 19⁺ weeks of gestation with vaginal bleeding for one month. She was diagnosed as having molar pregnancy at Bagh hospital, Abbotabad and was referred for further management. On examination her pulse was 112 / min and height of fundus was 22 weeks. On investigations she had biochemical hyperthyroidism and ultrasound revealed a complete mole (Table I).

Case 3

The third patient was a 26 years old lady health worker, G4P2+1, thalassaemia trait carrier and a known case of membranous proliferative glomerulonephritis. She presented in outpatient department at 13⁺ weeks gestation with complaints of vaginal spotting, excessive vomiting and palpitations for two weeks. On admission she was markedly pale, her

A 20 years old housewife, Primigravida, married for eight months, was referred from Sihala at 20 weeks of gestation for management of molar pregnancy. She presented with excessive vomiting, vaginal spotting and palpitations for 6 days. On examination her pulse was 110/min and fundal height was of 24 weeks, inconsistent with her gestation. Clinical hyperthyroidism was confirmed on investigations.

All patients were managed by multidisciplinary team comprised of anaesthetist, gynaecologist and endocrinologist. Carbimazole was advised in two of the patients, to attain euthyroid state before contemplating upon suction and curettage. Uterine Evacuation was performed a week after starting carbimazole. Patients were followed up with levels of hCG as per unit protocol along with thyroid function tests. One patient was lost to follow up. Carbimazole was continued until evacuation in one patient while the others required treatment for three months. In these patients there was spontaneous resolution of hyper

Table I. Investigations at Presentation and Follow Up

Cases	B hCG			TSH			T4	USG & H/P	
	Admission	2-4 weeks	3 months	Normal value: <0.3mIU/L			Admission	2-4 weeks	
Case 1	744857	No follow up	<5mIU/ml	0.01	No follow up	normal	23.8	No follow up	Complete Mole
Case 2	424252	24843	<5mIU/ml	0.01	0.2	normal	19.6	5.9	Complete Mole
Case 3	781721	19428	7,000	0.1	0.1	2.5	7.4	?	Complete Mole
Case 4	286134	-	-	0.04	-	-	20.8	-	Complete Mole

pulse was 110/ min and fundal height was large for gestational age. She had altered TFTs and a complete mole on USG.

Case 4

thyroid status following evacuation and at three months respectively. The third patient had persistent high levels of serum BhCG, therefore she was referred for chemotherapy.

Discussion

Gestational trophoblastic diseases (GTD) represent a group of pregnancy related disorders arising from abnormal placental trophoblast cells. It encompasses two pre malignant conditions – partial and complete hydatidiform mole. **Malignant forms are GTN, invasive mole, choriocarcinoma and persistent trophoblastic tissue** (PSTT).¹ The overall incidence is 1 in 714 live births in the UK and 4.6-28 per 1000 live births among Pakistani women.¹⁻³ The classic features are irregular vaginal bleeding, excessive uterine enlargement and hyperemesis.

Clinical or biochemical hyperthyroidism may be present in normal pregnancy but is observed more frequently in women with trophoblastic diseases.⁴ The reported prevalence of hyperthyroidism in patients with GTD is 25-64%, however, clinical manifestations occur only in about 5% of the GTD patients.⁵ This state of hyper thyroid function is brought about by the cross reaction of alpha subunit of hCG with that of TSH which are structurally similar.^{6,7}

Clinical features of hyperthyroidism can include palpitations, warm skin, sweating, problem in tolerating heat, and tremors. Three of our patients had palpitations, while tachycardia was present in all four patients. Occasionally, GTD associated hyperthyroidism requires treatment especially if there are clinical symptoms of hyperthyroidism.⁵ Untreated cases of hyperthyroidism in patients with GTD may have serious complication including thyroid storm on rare occasions.⁵ In our series two of the patients were advised antithyroid medication including beta blocker and carbimazole. This is the standard treatment to control hyperthyroid state although sophisticated modalities such as Plasmaphoresis have been used

preoperatively in patients who need more rapid hormonal control.⁸

Hyperthyroidism usually resolves as the GTD is successfully treated and correspondingly HCG levels normalize as in our patients, however, TSH levels remained elevated in patient with persistent GTD due to high levels of beta-hCG.⁹

Conclusion

Concomitant biochemical thyroid disease is a relatively common entity in patients with GTD and laboratory measurement of thyroid function in patients with persistent GTD is therefore, important. The development of hyperthyroidism is largely dependent upon level of hCG which is the measure of the disease burden, and therefore settles with treatment of the persistent GTD. However, rarely the thyroid stimulation can have potentially life threatening consequences.

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Disclosure of news of cancer to women in uncalculated thoughtless words, could turn their lives upside down, well exemplified by the Orlando Museum.



Identification: Wonderworks Museum, which is situated in Orlando Florida, is a unique building of the world, being constructed upside down. The activities taking place inside it include hurricane ride and earthquake ride, etc.