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Evaluation of Prevalence of Changes in Thyroid Functional Tests in Mole Hydatiforme

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Abstract

Introduction: Mole hydatiforme is the most common type of gestational trophoblast disease (GTD) and the aim of this study, is evaluation the frequency of changes in thyroid function tests in mole hydatidiform patients.

Materials and Methods: In this retrospective study, 63 patients with mole hydatidiform who reffering to gynecology ward of Ali ibn Abitaleb Hospital in Zahedan from April 20 16 to March 20 17, were studied. Information such as age, gravidity and laboratory findings including thyroid function tests (TFT) and the presence or absence of clinical symptoms were recorded in the information forms and analyzed by SPSS software.

Results: In this study, 63 patients with mole hydatidiform were studied. The mean age of the patients was 26.6 ± 7.7 years. The most common clinical manifestation of hyperthyroidism in patients with mole hydatiforme was tachycardia (39.7%). There was no relationship between age and gravidity with the hyperthyroid symptoms and thyroid function tests.

Conclusion: Overall, the results of this study showed that 67% of patients with mole hydatidiform had reduced TSH and more than 50% of cases had increased free T3 and T4. There was no relationship between maternal age and gravidity with changes in thyroid functional test.

Keywords: Mole hydatiforme; Thyroid function test; Gestational trophoblastic disease (GTD)

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Introduction

Mole hydatiforme is a rare complication of pregnancy and was considered as category of gestational trophoblastic diseases. It is an abnormal condition of placenta where cluster of small cysts with different sizes is formed due to degenerative and proliferative changes in placenta [1]. The incidence of mole hydatiforme in the United States and the rest of the developed countries is about 1 in 1,500 live births and it is prevalent in Asian countries [2,3]. According to research conducted in Iran, the prevalence of gestational trophoblastic disease in Tehran, Shiraz, Mashhad and Yazd is 1.85, 3.18, 5.47 and 1.8, per 1,000 pregnancies [4].

The human gonadotropin hormone (HCG) has been produced by placental trophoblasts and the studies have shown that there are similarities between HCG subunits with thyroid stimulating hormone (TSH) and their receptors. These similarities and the increase in the level of HCG in molar pregnancies could lead to induction of secondary hyperthyroidism [5], but since the stimulatory effect of HCG for TSH receptors is 4,000 times less than the TSH itself, so too high levels of HCG is necessary to see its effect on thyroid function. In these conditions, the level of TSH has decreased, but the levels of free T4 and T3 hormones are usually in the normal range or minimally high and patients are often asymptomatic [6]. The aim of this study was to evaluate the frequency of changes in thyroid function tests in hydatidiform mole patients.

Materials and Methods

This retrospective descriptive-analytic study was conducted on patients with diagnosis of mole hydatiforme admitted to Ali EbneAbitaleb hospital of Zahedan, (Iran) from April 20 16 to March 2017 . Exclusion criteria were people who had thyroid problems before mole hydatiforme or had been treated.

Patient data, (age, gravidity and thyroid function tests) were extracted from Ali ibn Abi Talibi hospital archives and recorded in pre-designed information forms. Finally, this information was entered into SPSS and was analyzed using Chi-square test.

Results

In this study, 63 patients with mole hydatiforme were studied. The mean age of the patients was 26.6 ± 7.7 years.

In this study, the most common clinical manifestation of hyperthyroidism in patients with mole hydatiforme was tachycardia (39.7%). The rest of the clinical manifestations are listed in Table 1.

There was no correlation between the hyperthyroidism symptoms and gravidity (P>0.05) for all comparisons based on chi-square. Also, there were no correlation age and hyperthyroidism symptoms (P>0.05 for all comparisons). The results of this study showed decreased TSH in 67% of patients, increased free T4 in 43% and increased free T3 in 48% (Table 2). Based on chi-square test, there was no correlation between thyroid function tests with gravidity and age group (P>0.05 for all comparisons).

Discussion

Hyperthyroidism is one of the conditions found in about 25-64% of the patients with mole hydatidiform [7]. However, most patients with mole hydatiforme do not show hyperthyoidism signs or symptoms regardless rising of freeT3 and T4, and only 5% of these patients have clinical hyperthyroidism [8-10].

In this study, 63 patients with mole hydatiforme were studied. The mean age of the patients was 26.6 ± 7.7 y. The most common clinical manifestation of hyperthyroidism in patients with mole hydatiforme was tachycardia (39.7%). There was no relationship between gravidity and age with any hyperthyroidism symptoms. 67% of patients had decreased TSH, 43% had increased T4 and 48% had an increased T3, there was no correlation between thyroid function tests and gravidity and also age of the patients. In a study conducted with the aim of investigating the relationship between HCG levels and thyroid function on 155 patients with hydatidiform mole by Anis al-DolehNankaly et al, in Kermanshah in the years 2013 to 2009, it was concluded that 76 patients (49%) had subclinical hyperthyroidism wihout clinical hyperthyroidism and 79 (51%) of them were euthyroid [3]. Another study by L Walkington et al. in England in 2005-2010 on 196 patients with gestational trophoblastic disease reported that 14 had biochemical hyperthyroidism, 4 patients had symptoms of clinical hyperthyroidism [11]. In another study, Norman et al reviewed hyperthyroidism in GTD, and reported that 15 out of 27 patients had choriocarcinoma and 12 cases were mole hydatiforme. Of these patients (55.5%), 15 patients had hyperthyroidism that 8 patients had choriocarcinoma and 7 had mole hydatidiforme. The mean age of patients with choriocarcinoma and mole hydatiforme was 30 and 29 years old respectively. The most common clinical manifestations were vaginal bleeding (88.8%) and abdominal pain (74%) [12].

One of the limitations of this study was the lack of correlation between BhCG levels and changes in thyroid functional test, which is recommended to assess and study in future studies [13,14].

Table 1. Frequency of clinical manifestations of hyperthyroidism in patients with mole hydatidiform.

Clinical manifestations	+	_
Tachycardia	25 (39.7%)	38 (60.3%)
Tremor	23 (36.5%)	40 (63.5%)
Sweating	14 (22.2%)	49 (77.8%)
Weight loss	7 (11.1%)	56 (88.9%)
Intolerance to the heat	11 (17.5%)	52 (82.5%)

Table 2. Changes in thyroid functional tests in patients with mole hydatiforme.

N		
21 (33%)	NL	TSH
42 (67%)	Decreased	
33 (52%)	NL	Free T3
30 (48%)	Increased	
36 (57%)	NL	Free T4
27 (43%)	Increased	

References

1. Arun N, Kumar A, Pankaj S, Raghwendra KH, Choudhary V (2014) Mole with Hyperthyroidism: Dilemma for Emergency Surgery. Journal of Evolution of Medical and Dental Sciences 3: 8682-8685.
2. Lurain JR (2010) Gestational trophoblastic disease I: epidemiology, pathology, clinical presentation and diagnosis of gestational trophoblastic disease and management of hydatidiform mole. Am J Obstet Gynecol 203: 531-539.
3. Anisodowleh N, Farahnaz K, Nasrin J, Maryam H, and Elaheh B (2016) Thyroid hormone levels and its relationship with human chorionic gonadotropin in patients with hydatidiform mole. Open J Obstet Gynecol 6: 56-63.
4. Farhadifar F, Naseri K, Zandvakili F (2007) Epidemiological survey of gestational trophoblastic disease in Besat Hospital in Sanandaj from 1373 to 1382. Majallāh-i ʿilmīDānishgāh-i ʿUlūm-iPizishkī-iKurdistān 12: 32-37.
5. Almeida CED, Curi EF, Almeida CRD, Vieira DF (2011) Thyrotoxic Crisis Associated with Gestational Trophoblastic Disease. Rev Bras Anestesiol 61: 604-609.
6. WalkingtonL,Webster J, Hancock BW, Everard J and Coleman RC (2011) Hyperthyroidism and human chorionic gonadotrophin production in gestational trophoblastic disease. Br J Cancer 104: 1665-1669.
7. Garner E, Goldstein DP, Feltmate CM, Berkowitz RS (2007) Gestational trophoblastic disease. Clin Obstet Gynecol.. 50: 112-122.
8. Nagataki S, Mizuno M, Sakamoto S, Irie M, Shizume K et al.(1977) Thyroid function in molar pregnancy. J Clin Endocrinol Metab 44: 254-263.
9. Norman RJ, Green-Thompson RW, Jialal I, Soutter WP, Pillay NL et al. (1981) Hyperthyroidism in gestational trophoblastic neoplasia. Clin Endocrinol 15: 395-401.
10. Berkowitz RS, Goldstein DP, Du Beshter B, Bernstein MR (1987) Management of complete molar pregnancy. J Reprod Med 32: 634-639.
11. Walkington L,Webster J, Hancock BW, Everard J and Coleman RC (2011) Hyperthyroidism and human chorionic gonadotrophin production in gestational trophoblastic disease. Br J Cancer 104: 1665-1669.
12. Norman RJ, Green-Thompson RW, Jialal I, Soutter WP, Pillay NL et al. (1981) Hyperthyroidism in gestational trophoblastic neoplasia. Clin Endocrinol 15: 395-401.
13. Farzaneh F, Tavakolikia Z, Soleimanzadehmousavi SH.Assessment of occurrence of preeclampsia and some clinical and demographic risk factors in Zahedan city in 2017. Clin Exp Hypertens. 2018 Nov 2:1-6. doi:10.1080/10641963.2018.1523919.
14. Razavi M, Rashidi Fakari F, Jafari FS, Farzaneh F, Sargolzaei N. The Role of Uterine Artery Doppler Ultrasound in the Second Trimester in Predicting Preeclampsia. Int J Pediatr 2019; 7(5): 9405-11. DOI: 10.22038/ijp.2019.37066.3229.