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 trophoblastic disease (GTD) and the aim of this study, is evaluation the frequency of changes in thyroid function tests in mole hydatiforme patients.

Materials and Methods: In this retrospective study, 63 patients with mole hydatiforme who referring 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 hydatiforme 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 hydatiforme 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)

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 hydatiform mole patients.

Materials and Methods

This retrospective descriptive-analytic study was conducted on patients with diagnosis of mole hydatiforme admitted to Ali Ebne Abitaleb 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.

<table>
<thead>
<tr>
<th>Clinical manifestations</th>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachycardia</td>
<td>25 (39.7%)</td>
<td>38 (60.3%)</td>
</tr>
<tr>
<td>Tremor</td>
<td>23 (36.5%)</td>
<td>40 (63.5%)</td>
</tr>
</tbody>
</table>
Discussion

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 freeT4 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).

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

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweating</td>
<td>14</td>
<td>22.2%</td>
</tr>
<tr>
<td>Weight loss</td>
<td>7</td>
<td>11.1%</td>
</tr>
<tr>
<td>Intolerance to the heat</td>
<td>11</td>
<td>17.5%</td>
</tr>
</tbody>
</table>

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 freeT4 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).

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

<table>
<thead>
<tr>
<th>TSH</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td>Free T3</td>
<td>42</td>
<td>67%</td>
</tr>
<tr>
<td>Increased</td>
<td>33</td>
<td>52%</td>
</tr>
<tr>
<td>Free T4</td>
<td>30</td>
<td>48%</td>
</tr>
<tr>
<td>Decreased</td>
<td>36</td>
<td>57%</td>
</tr>
<tr>
<td>Increased</td>
<td>27</td>
<td>43%</td>
</tr>
</tbody>
</table>

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There was no correlation between 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 freeT4 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).

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

References