Thyroid Dysfunction in Dysfunctional Uterine Bleeding

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None
Thyroid Dysfunction in Dysfunctional Uterine Bleeding

Author(s): Kaur T, Aseeja V, Sharma S

Abstract

Dysfunctional uterine bleeding is one of the most frequently encountered conditions in gynecology being principal diagnosis in at least 10% of all new outpatients both in hospital and private practice. The diagnosis depends upon exclusion of general and local disease. It is recognized universally that menstrual disturbances may accompany and even may precede thyroid dysfunction. In the present study thyroid status of patients presenting with dysfunctional uterine bleeding was assessed by TSH assay.

Introduction

Dysfunctional uterine bleeding is one of the most frequently encountered conditions in gynecology and is defined as abnormal bleeding from uterus in absence of organic disease of the genital tract. It is recognized universally that menstrual disturbances may accompany clinical alterations in thyroid function, and every clinician has encountered altered menstrual patterns among women suffering from hypothyroidism and hyperthyroidism. Both hypothyroidism and hyperthyroidism may result in menstrual disturbances. Hyperthyroidism reduces menstruation and hypothyroidism causes menorrhagia. Hyperthyroidism in contrast is associated with a menorrhagia and oligomenorrhea and the decrease in flow is proportional to the severity of the thyrotoxicosis.

Materials and Methods

For the purpose of study 100 premenopausal women with dysfunctional uterine bleeding were evaluated for their thyroid status by determining their serum thyroid stimulating hormone (TSH) levels with the help of panthozone TSH assay. Patients with TSH level >7IU/ml were considered to have hypothyroidism and those with <0.4IU/ml were considered to have hyperthyroidism.

Observations:

Out of 100 patients studied, 14 had hypothyroidism, one patient had hyperthyroidism and rest 85 were euthyroid.

Of 14 hypothyroid patients, 9 (64.3%) had menorrhagia, 3 (21.4%) had oligomenorrhea and one patient with hyperthyroidism was found to have hypermenorrhagia. Hypothyroid patients with TSH levels below 13.5mIU/ml had either menorrhagia or metrorrhagia, but as TSH rises up to 20mIU/ml, oligomenorrhea was the chief complaint. Hypothyroid patients had proliferative endometrium, 3 (21.4%) had endometrial hyperplasia and rest 2 (14.3%) had secretory endometrium.

Discussion

Thyroid disorders are more common in women with menstrual irregularities as compared to general population. Both hypothyroidism and hyperthyroidism may result in menstrual disturbances. Scot and Mussey observed abnormal menstrual pattern in 56% of myxedematous patients. Menorrhagia and metrorrhagia alone or combined constituted abnormal pattern in 75% of patients. Wilansky et al showed a prevalence of 22% of early hypothyroidism by thyrotropin releasing hormone test in menorrhagic women, that is much higher than that found in general female population. Joschi et al showed 44% of the women with menstrual abnormality were apparently euthyroid. Menstrual irregularity was significantly more frequent in hypothyroidism or hyperthyroidism as compared to control cases and in more than 45% of cases this preceded the appearance of goiter or clinical sign and symptoms. Our study too had apparently euthyroid patients none showing signs and symptoms of thyroid disease but with TSH assay 15 patients were found to have subclinical disease. Menstrual disturbance in thyrotoxicosis is two and half times more frequent than in normal general population. Our study showed menstrual irregularities to be significantly more frequent in patient with thyroid dysfunction concluding that systematic study of thyroid function in dysfunctional uterine bleeding is warranted. Goldsmith demonstrated a 70% occurrence of ovulatory failure in patients with hypothyroidism while...
20% had normal ovulation. 72.2% of patients with thyrotoxicosis had ovulatory cycles.(8) Our study showed 85.7% of hypothyroid patients had anovulatory cycles. 14.3% had ovulatory cycles. These studies shows that thyroid disorder are more common in patients with dysfunctional uterine bleeding. Both hypothyroidism and hyperthyroidism may result in abnormal uterine bleeding. Thyroid function should be done in patients presenting with dysfunctional uterine bleeding.

Conclusion

The menstrual irregularities are significantly more frequent in patients with thyroid dysfunction and may precede thyroid dysfunction. Further systematic study of thyroid dysfunction in dysfunctional uterine bleeding is warranted.

References

Illustrations

Illustration 1

TABLE 1: DISTRIBUTION OF PATIENTS ACCORDING TO THYROID STATUS (n=100)

<table>
<thead>
<tr>
<th>Thyroid status</th>
<th>Number of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euthyroid</td>
<td>85</td>
<td>85.00</td>
</tr>
<tr>
<td>Hypothyroid</td>
<td>14</td>
<td>14.00</td>
</tr>
<tr>
<td>Hyperthyroid</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Illustration 2

TABLE 2: DISTRIBUTION OF PATIENTS ACCORDING TO THYROID STATUS IN RELATION TO TYPE OF BLEEDING

<table>
<thead>
<tr>
<th>Type of bleeding</th>
<th>Thyroid status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hypothyroid</td>
</tr>
<tr>
<td>Menorrhagia</td>
<td>9</td>
</tr>
<tr>
<td>Metrorrhagia</td>
<td>2</td>
</tr>
<tr>
<td>Oligomenorrhoea</td>
<td>3</td>
</tr>
<tr>
<td>Hypomenorrhoea</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>
Illustration 3

TABLE 3: DISTRIBUTION OF PATIENTS ACCORDING TO BLEEDING PATTERN IN RELATION TO TSH LEVELS (n=15)

<table>
<thead>
<tr>
<th>Bleeding pattern</th>
<th>TSH level</th>
<th>Thyroid status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menorrhagia</td>
<td>9.0-13.5</td>
<td>Hypothyroid</td>
<td>8</td>
</tr>
<tr>
<td>Metrorrhagia</td>
<td>7.9-9.2</td>
<td>Hypothyroid</td>
<td>2</td>
</tr>
<tr>
<td>Oligomenorrhoea</td>
<td>15.6-20.0</td>
<td>Hypothyroid</td>
<td>3</td>
</tr>
<tr>
<td>Hypomenorrhoea</td>
<td>0.2</td>
<td>Hypothyroid</td>
<td>1</td>
</tr>
</tbody>
</table>
Reviews

Review 1

Review Title: Thyroid Dysfunction in Dysfunctional Uterine Bleeding

Posted by Faculty Dr. Babasola O Okusanya on 07 Jan 2012 01:32:04 PM GMT

<table>
<thead>
<tr>
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<th>Question</th>
<th>Rating</th>
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<tbody>
<tr>
<td>1</td>
<td>Is the subject of the article within the scope of the subject category?</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Are the interpretations / conclusions sound and justified by the data?</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Is this a new and original contribution?</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Does this paper exemplify an awareness of other research on the topic?</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Are structure and length satisfactory?</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Can you suggest any reductions in the paper, or deletions of parts?</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>Is the quality of the diction satisfactory?</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Are the illustrations and tables necessary and acceptable?</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Are the references adequate and are they all necessary?</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Are the keywords and abstract or summary informative?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Rating: 2

Comment: Thyroid Dysfunction in Dysfunctional Uterine Bleeding

Comments

Title: Needs to be revised to Thyroid function in women undergoing investigation for abnormal uterine bleeding.

Abstract: If diagnosis of DUB depends on the exclusion of general and local disease condition, how was the diagnosis made in the 100 women? Not just TSH, but also T4 and T3 need to be assessed, among other investigations before a diagnosis of DUB could be made.

Introduction: Thyroid hormone dysfunction may present clinically as altered menstrual pattern in women of reproductive age.

Materials and methods:

100 premenopausal women were used. Did this mean climacteric women or women in reproductive age? How were the 100 women selected? From previous reports, if any, what was the local prevalence of thyroid dysfunction and DUB and how was the sample size calculated if it was done?

Ethically, is TSH assay a routine investigation at your facility for women with abnormal uterine bleeding? If not, did the women know they were partaking in research, was consent got and who paid for the laboratory investigation?

Results

NONE
From table 1, 85 women were euthyroid while 15 women had abnormal TSH. This implies that this article was written on 15 women with abnormal TSH levels and menstrual pattern.

Also, only serum TSH level was assessed. T4 and T3 levels were not estimated and the justification for this was not stated and discussed in the discussion part of the article.

Discussion

Line 1 should read: Menstrual irregularities are common in women with thyroid disorders than in the general population.
- Authors did not discuss the findings but just compared findings with previously published articles.
- The conclusion of the authors is nothing new as it is impossible to reliably make a diagnosis of DUB without doing hormone assay including T4 and T3 and not just TSH estimation.
- How the authors confirmed that 85.7% of hypothyroid women had anovulatory cycles was not stated. Was day 21 serum progesterone or pelvic ultrasound scan done to know this? If so, another table is required to show ovulation status of the women.

Conclusion

Needs to re-written.

Competing interests: No competing interests whatsoever

Invited by the author to make a review on this article? : No

Experience and credentials in the specific area of science:
Good experience

Publications in the same or a related area of science: No

How to cite: Okusanya B. Thyroid Dysfunction in Dysfunctional Uterine Bleeding [Review of the article ‘Thyroid Dysfunction in Dysfunctional Uterine Bleeding’ by ]. WebmedCentral 1970;3(1):WMCRW001342
Review 2

Review Title: Review of thyroid dysfunction in DUB

Posted by Dr. Roger C Young on 06 Dec 2011 11:23:27 PM GMT

1. Is the subject of the article within the scope of the subject category? Yes
2. Are the interpretations / conclusions sound and justified by the data? Partly
3. Is this a new and original contribution? Yes
4. Does this paper exemplify an awareness of other research on the topic? No
5. Are structure and length satisfactory? Yes
6. Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience? Yes
7. Can you suggest any reductions in the paper, or deletions of parts? Yes
8. Is the quality of the diction satisfactory? No
9. Are the illustrations and tables necessary and acceptable? No
10. Are the references adequate and are they all necessary? No
11. Are the keywords and abstract or summary informative? Yes

Rating: 2

Comment:
The abstract does not summarize the paper, it does not contain any data.

How the patients were found need to be included. Were these in a gyn clinic or endocrine clinic. Why did they have their TSH drawn - per protocol or per provider interest. There may be some bias in pt selection. Were breast leakage or known fibroids (or other sources) eliminated, or were these all patients who presented. Finally, were these only initial visits for this presenting problem?

It will be important to know the age range of the patients.

In table 1 it is not necessary to have 85% when 85 of 100 patients are described. It would be more important to know the TSH levels as in table 3. Bleeding patterns are not defined.

In table 3 the TSH pt with 0.2 is labled hypothyroid.

References are old and don't help much.

There are many instances of grammatical errors.

It would be most interesting to have a plot of symptoms vs. TSH levels to really show there is a biphasic response to degrees of hypothyroidism (i.e. metro/menorrhagia with mild/moderate, oligo with severe.) (also forget about the one patient with hyperthyroidism)

This paper needs to be re-written with emphasis on this last point, and a review of the literature to see if this is supported or if this is new information.

Competing interests: none

Invited by the author to make a review on this article? No
Experience and credentials in the specific area of science:
Physician-scientist, academic clinician

Publications in the same or a related area of science: No

How to cite: Young R. Review of thyroid dysfunction in DUB [Review of the article 'Thyroid Dysfunction in Dysfunctional Uterine Bleeding' by]. WebmedCentral 1970;2(12):WMCRW001211
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