



Study on Thyroid Dysfunction in Patients of Dysfunctional Uterine Bleeding

Koduru Mounika^{1*}

¹Department of Obstetrics and Gynaecology Sree Balaji Medical College and Hospital Chennai - 600044, India.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i40A32218

Editor(s):

(1) Syed A. A. Rizvi, Nova Southeastern University, USA.

Reviewers:

(1) Ahmed Ali Gaffer Ali, Alzaiem Alazhari University, Sudan.

(2) Suraiya Begum, Bangabandhu Sheikh Mujib Medical University, Bangladesh.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/72172>

Original Research Article

Received 01 June 2021
Accepted 04 August 2021
Published 04 August 2021

ABSTRACT

Aim: The purpose of the study was to detect thyroid dysfunction in women who had abnormal uterine bleeding

Study Design: Menorrhagia was the most common type of bleeding (36%). Thyroid dysfunction was discovered in 32% of the patients (Subclinical hypothyroidism in 17%, Hyper thyroid is 11% and hyperthyroidism in 4 % of cases).

The researchers looked at 100 cases of Dysfunctional Uterine Bleeding that were clinically identified at Sree Balaji Medical College and Hospital between March 2014 and August 2016. The patients in this study ranged in age from under 20 to 45 years old. The number of instances with DUB who were between the ages of 31 and 40 is 38 %.

Methodology: The parity of the patients ranged from unmarried to 0-5, with the parity 2 group accounting for 37% of all DUB patients and the following assessments were made.

Results: Thyroid dysfunction was most common in cases of polymenorrhagia (42.8%), menorrhagia (33.3%), polymenorrhea (28.5%), and oligomenorrhea. (26%). Thyroid dysfunction was most common in the age group 31-40 years, accounting for 77.5% of the population. In 17 % of cases, the primary thyroid malfunction was subclinical hypothyroidism. 3% of hyperthyroid patients were also oligomenorrhagic. The most prevalent thyroid disorder in metrorrhagic patients was subclinical hypothyroidism.

Keywords: Hypothyroidism; dysfunctional uterine bleeding; thyroid dysfunction.

1. INTRODUCTION

Since ancient times, menstruation has been recognized as the purification process of the female health system. As a result, any change in monthly volume or pattern should be taken seriously. In women, bleeding is a source of concern. This is a legitimate worry is heightened not only by the myths and taboos that surround it, but also by the fact that around the topic of menstruation, but they're also surrounded by a well-coordinated strategy to detect cancer of the gynecological system [1,2]. The ovulatory or anovulatory nature of dysfunctional uterine bleeding is determined by the menstrual cycle. Age differences and clinical manifestations such as thyroid dysfunction (subclinical or clinically apparent) are becoming more critical factors related with DUB among all etiologies. The thyroid gland is considered to play a significant role in a healthy menstrual cycle [3]. Abnormal menstruation, especially heavy and protracted menses, is a common debilitating illness that necessitates repeated curettage and hysterectomy, with all of the associated morbidity and mortality. Many women today find hysterectomy, as a major surgery with considerable medical and psychological implications, to be unacceptable [4,5].

This study aims to assess thyroid function in women in the puberty to premenopausal age groups who have abnormal menstrual bleeding, as well as to establish a link between thyroid function and abnormal menstrual bleeding, which will aid in the management of patients who present with Dysfunctional Uterine Bleeding (DUB) to a gynecological OPD.

2. MATERIALS AND METHODS

This is a population based study. This study was carried out in 100 patients from OPD and In-patients of Sree Balaji Medical College and Hospital during the period March 2014 to August 2015, in women who were diagnosed with dysfunctional uterine bleeding.

2.1 Criteria for Selection of Cases

2.1.1 Inclusion criteria

All patients diagnosed to have dysfunctional uterine bleeding from puberty to premenopausal age groups were included in the study. All

patients having major complaint of menstrual disturbances e.g., menorrhagia, polymenorrhea, polymenorrhagia, metrorrhagia, oligomenorrhea and hypomenorrhagia were included in the study.

2.1.2 Exclusion criteria

Patients with a previous history of bleeding disorder were excluded. Patients who are on hormones, anti-psychotic drugs and drugs interfering with bleeding and clotting factors, IUCD users, diagnosed with pelvic inflammatory disease, tuberculosis, thyroid disorders and diabetes mellitus were excluded.

2.2 Methods

Weight gain, tiredness, cold sensitivity, constipation, palpitations, tremors, dry skin, and family history of thyroid problems were all noted in detail. A thorough clinical examination was performed, which included a general physical examination, a clinical thyroid examination, a systemic examination, and a gynaecological examination, all with a focus on thyroid dysfunction; a clinical diagnosis of DUB was made, and the diagnosis was confirmed by ultrasonography. Complete blood count, blood grouping and type, HbA1C and urine microscopic examination were done. Bleeding time, clotting time, prothrombin time, partial thromboplastin time and INR were done to rule out coagulation disorders. Then all patients were subjected for FT3, FT4 and TSH estimation in their serum. These tests were done in fasting to avoid diurnal variation.

3. RESULTS

In gynecological practice, dysfunctional uterine bleeding is one of the most common disorders. The statistics on the following pages provide a descriptive examination of parity, age, DUB clinical distribution, and its association to thyroid dysfunction. There were 100 patients in total who were investigated from March 2014 – August 2015.

According to the above table maximum number of patients in the study group belongs to the age group of 31-40 years which was **38%**, and minimum number patients were > 40 years age group (11%) (Table 1).

Table 1. Distribution of patients according to age

Age group (years)	No. of cases	Percentage (%)
< 20	30	30
21-30	21	21
31-40	38	38
>40	11	11
TOTAL	100	100

Table 2. Patient distribution based on TQ parity

Parity	No. of Patients	Percentage (%)
Spinster	27	27
0	6	6
1	5	5
2	37	37
3	22	22
4	2	2
5	1	1
100	100	100

The relationship between DUB and parity is shown in the Table 2. There were 27 unmarried patients, 6 nulliparous patients, 5 patients who were para 1, 2 patients who were para 4, and 1 patient who was para 5. The highest number of patients in this study were para 3 which were 37% and 22% respectively and the lowest number of patients with DUB were para 5 (Table 2).

Table 3. Patients are distributed based on their symptoms

Type of bleeding	No. of cases	Percentage (%)
Menorrhagia	36	36
Oligomenorrhoea	27	27
Polymenorrhagia	21	21
Polymenorrhoea	7	7
Hypomenorrhoea	5	5
Metrorrhagia	4	4
Total	100	100

The accompanying table demonstrates that menorrhagia was the most common complaint among 100 patients who presented with various bleeding patterns. Patients had oligomenorrhoea in 27% of cases, polymenorrhagia in 21% of

cases, polymenorrhoea in 7% of cases, hypomenorrhoea in 5% of cases, and metrorrhagia in 4% of cases. The most common complaint was menorrhagia, which was followed by oligomenorrhoea (Table 3).

3.1 Patient Distribution Based on Age Groups and Bleeding Pattern

The most common bleeding pattern in patients less than and equal to 20 years was menorrhagia (70%) followed by oligomenorrhoea 16.6% of the cases. In age group 30 years, the commonest bleeding pattern was menorrhagia and oligomenorrhoea which were seen in these groups. In age group 40 the commonest bleeding pattern was polymenorrhagia 34.2%. In patients with age above 40 polymenorrhoea 45.4% was the commonest bleeding pattern.

3.2 Thyroid Dysfunction in Relation to Parity

This depicts the link between parity and thyroid problems in DUB patients. Thyroid dysfunction was most common in para 1 patients (approximately 80%) and second most common in para 2 patients (about 37.8%). Thyroid dysfunction was found in 18.5 % of unmarried patients. Thyroid dysfunction was found to be the least common in para 5 patients (0%).

3.3 Thyroid Dysfunction in Different Age Groups

The age-related link between thyroid problems and various age groups. Thyroid dysfunction was most common in people between the ages of 31 and 40, accounting for 77.5 % of the population. Patients aged 21 to 30 years old accounted for 38% of the total. Thyroid dysfunction was seen in 20% of individuals under the age of 20.

This table depicts the relationship between thyroid dysfunction (hypothyroidism, subclinical hypothyroidism, or hyperthyroidism) and numerous forms of bleeding problems. Thyroid dysfunction was most common in patients with polymenorrhagia (42.8%), next in patients with menorrhagia (33.3%), and finally in individuals with polymenorrhoea (28.5%) Thyroid dysfunction was seen in 25% of metrorrhagia patients. Thyroid dysfunction was the least common in hypomenorrhoea patients (20%) (Table 4).

Table 4. Thyroid dysfunction and bleeding pattern

Type of bleeding. Example inserted	Euthyroid n(%)	Hypothyroid n(%)	Subclinical hypothyroid n(%)	Hyperthyroid n(%)	Total thyroid dysfunction n(%)	Type of bleeding. Example inserted	Euthyroid n(%)
Menorrhagia	36	24	6	6	0	12	33.3
Oligomenorrhea	27	20	0	4	3	7	26
Polymenorrhagia	21	12	4	5	0	9	42.8
Polymenorrhea	7	5	1	1	0	2	28.5
Hypomenorrhea	5	4	0	0	1	1	20
Metrorrhagia	4	3	0	1	0	1	25
Total	100	68	11	17	4	32	

Patients with hyperthyroidism, on the other hand, only presented with hypomenorrhea in 25% and in oligomenorrhea in 42% cases. This depicts the relationship between TSH levels (mU/L) and several types of bleeding patterns. Patients with TSH levels less than 0.4 (mU/L) had oligomenorrhea symptoms (75 %). Patients with significantly increased TSH levels of 4.1-50.0 (mU/L) had menorrhagia in 36.8% of cases and polymenorrhagia in 31.5 % of cases.

4. DISCUSSION

Patients were recruited from all age categories in this study, including those under the age of 20, those between the ages of 21 and 30, those between the ages of 31 and 40, and those between the age more the 45 years, with the age group of 31-40 accounting for the largest number of patients. In another study the majority of patients (Doifode and Fernandes) [6] patients were between age group of 31-40 years. Patients in the current study were classified as unmarried, nullipara, para 1, para 2, para 3, para 4, para 5 and above, based on their parity. Thyroid dysfunction was found in 15.6 % of unmarried patients in the current study, and 15 % of spinster patients in another study [7]. Thyroid dysfunction was found to be 12.5 % among nulliparous patients in this study, compared to 6 % in yet another study [8]. The highest number of patients in the study were para 1, 12.5% of them had thyroid dysfunction where maximum number of patients with thyroid dysfunction belonged to para [9]. In comparison to the author's study, which revealed that higher pace of thyroid in nulliparous ladies were determined (12.5%), but when comparing with the current study, it reveals a slightly higher rate of thyroid dysfunction in nulliparous women (12.5%). When patients with thyroid were included for the current investigation if they were under the age of 20 and had DUB, it was found that only 11.67 % of patients with thyroid dysfunction were from this group in a similar study, while 23.33 % of patients with thyroid dysfunction were from this group in the author's study [10].

A total of 100 cases with atypical menstruation were studied in this study. In this investigation, patients with menorrhagia, polymenorrhoea, polymenorrhagia, and metrorrhagia had thyroid insufficiency manifested as subclinical or clinical hypothyroidism. Patients with clinical signs and manifestations of hypothyroidism were taken for

the investigation, while those with clinically analyzed DUB who had any sign or side effect of hypothyroidism were not included in the study. From the results it was found that, Hypothyroidism was the most prevalent thyroid dysfunction identified in patients with all seven categories of menstrual abnormalities (28 %) .In another study [6-8], the most prevalent menstrual irregularity seen in hypothyroidism was menorrhagia (63%). Menorrhagia was the most common menstrual irregularity in the current study, accounting for 42.8 % of the total. Polymenorrhagia was the next most frequent menstrual anomaly, accounting for 23.33 % of the study's participants. Polymenorrhoea was not included in the that study but in this study Polymenorrhoea and polymenorrhagia were found to be the menstrual abnormality in 39.2 % of hypothyroid subjects.

5. CONCLUSION

Thyroid dysfunction should be regarded a significant etiological cause for menstrual dysfunction, according to our findings. To diagnose evident and concealed thyroid dysfunction, biochemical screening of FT3, FT4, and TSH estimations should be made routine in DUB cases. Thyroid screening in irregular uterine bleeding is recommended and it would avoid unnecessary surgeries and exposure to hormones.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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Peer-review history:

*The peer review history for this paper can be accessed here:
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