



To determine the incidence and association of thyroid dysfunction in patients with Abnormal Uterine Bleeding: An analytical cross-sectional study

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Abstract

Aim: to determine the incidence and association of thyroid dysfunction in patients with Abnormal Uterine Bleeding.

Materials and Methods: The present analytical cross-sectional clinical study was conducted in the Department of Obstetrics and Gynecology, Darbhanga Medical College and Hospital, Bihar. 130 patients with abnormal uterine bleeding of were found to be eligible for inclusion in the study.

Results: Mean age of the study subjects was 33.04 years. Majority of patients was multiparous (56.9%). 43.8% of women presented with complaint of heavy menstrual bleeding were having thyroid dysfunction.

Conclusion: Abnormal uterine bleeding found strongly associated with thyroid related disorders. Hence the evaluation of thyroid function forms an essential component among abnormal uterine bleeding patients.

Keywords: abnormal uterine bleeding, thyroid dysfunction

Introduction

Abnormal uterine bleeding affects 10-30 percent of reproductive aged women and upto 50 percent of perimenopausal women [1]. It is seen in 15-20% of women from the commencement of menarche to menopause and has great impact on quality life of the women [2]. Failure in finding etiology along with debilitating symptoms mostly results in unnecessary surgical interventions causing increase in morbidity and mortality.

Endocrinological dysfunctions including thyroid disorders plays major role in its etiopathogenesis. Thyroid hormones exert multiple effects on the human body specifically on the development, metabolism, growth and functions of major organ system in the human body [3].

Mechanisms behind menstrual irregularities due to thyroid disorders are multiple. Some of these are like, alterations in TSH response, altered LH response and conversion of androgens to estrogen peripherally, TRH causing increased prolactin levels, altered SHBG and effect on the coagulation factors [4, 5].

In the early stages of thyroid disease (thyrotoxicosis and myxoedema), menorrhagia or polymenorrhoea is a common complaint. Later, amenorrhoea develops, especially in thyrotoxicosis [6]. With hyperthyroidism, hypomenorrhoea and amenorrhoea are more frequent complaints and menorrhagia is noted in only approximately 5 percent. With severe overt hypothyroidism, women commonly present with anovulation, amenorrhoea and anovulatory DUB [7].

Hence the present study was conducted with the aim to determine the incidence and association of thyroid dysfunction in patients with Abnormal Uterine Bleeding.

Materials and Methods

The present analytical cross-sectional clinical study was conducted in the Department of Obstetrics and Gynecology, Darbhanga Medical College and Hospital, Bihar.

Inclusion Criteria

1. Patients presented with the chief complaint of abnormal uterine bleeding.
2. Patients between the age group of 18-45 years
3. Patients who have provided the informed consent

Exclusion Criteria

1. Patients with previously known thyroid disorder
2. Patients diagnosed with thyroid disease, hyperprolactinemia and coagulopathy
3. Patients on anticoagulant drugs.
4. Patients who have not signed the informed consent

The study protocol was reviewed by the Ethical Committee of the Hospital and granted ethical clearance. After explaining the purpose and details of the study, a written informed consent was obtained.

Sample selection

The sample size was calculated using a prior type of power analysis by G* Power Software Version 3.0.1.0 (Franz Faul, Universitat Kiel, Germany). The minimum sample size was calculated, following these input conditions: power of 0.80 and $P \leq 0.05$ and sample size arrived were 130 participants.

Methodology

Patient demographic characteristics, medical and obstetrical history including present and past menstrual history was taken from the patients. A detailed examination including general and gynaecological examination was done by which the obvious pelvic pathologies were ruled out. All patients were advised for routine investigations like CBC, Blood sugar, Urine routine and BT, CT and also the thyroid profile

which included T3, T4 and TSH

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2010) and then exported to data editor page of SPSS version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages and means.

Results

Table 1: demographic profile of the study population

Age	33.04±4.16
BMI	27.19±2.29
Parity	
Unmarried	18 (13.8%)
Primipara	38 (29.2%)
Multiparous	74 (56.9%)

Table 2: Abnormal Bleeding pattern in the study population

Abnormal Bleeding pattern	N (%)
Acyclical	23 (17.7%)
Shortened Cycles	7 (5.38%)
In-Frequent Cycles	32 (24.6%)
Frequent Cycles	11 (8.5%)
Heavy Menstrual Bleeding	57 (43.8%)

Table 3: Thyroid status in the study population

Thyroid Status	N (%)
Euthyroid	73 (56.2%)
Hypothyroid	12 (9.2%)
Sub-clinical Hypothyroid	38 (29.2%)
Hyperthyroid	7 (5.4%)

Table 4: Association between abnormal bleeding pattern and thyroid status

Thyroid Status	Acyclical	Shortened Cycles	In-Frequent Cycles	Frequent Cycles	Heavy Menstrual Bleeding
Euthyroid	7 (30.3%)	5 (71.4%)	15 (46.9%)	9 (81.8%)	37 (64.9%)
Hypothyroid	2 (8.7%)	2 (28.6%)	3 (9.4%)	0	5 (8.8%)
Sub-clinical Hypothyroid	13 (56.5%)	0	11 (34.3%)	2 (18.2%)	12 (21.1%)
Hyperthyroid	1 (4.3%)	0	3 (9.4%)	0	3 (5.3%)

Discussion

In the present study the mean age of the study population was 33.04 years. In the study most of the women were in the age group 30-39 years. Similar study done by Mohapatra S *et al.* [8] reported that highest incidence of abnormal uterine bleeding was seen in the age group 30-39 years. Similarly, Parveen M *et al.* [9] also observed that majority of the women were in the age group between 30-39 years.

The present study revealed that majority of patients was multiparous (56.9%). This was found in agreement with the study conducted by Pilli *et al* reported that abnormal uterine bleeding is seen in 87% multipara, 7% primipara and 6% nulliparous [7].

43.8% of women presented with complaint of heavy menstrual bleeding making it the most common pattern of abnormal uterine bleeding. In study by Ali J *et al.* [10] and Verma SK *et al.* [11] 42% and 47.5% presented with HMB respectively. Parveen M *et al.* [9] also found an incidence of 45% of heavy menstrual bleeding in their study.

The present study showed 43.8% of the study subjects were having thyroid dysfunction. Pahwa S *et al.* [12] reported had thyroid dysfunction among in 24% of the patients. In another study conducted by Marimuthu K *et al.* [13] found that 27.2% cases had thyroid dysfunction. Jinger SK *et al* found 47% patients having thyroid dysfunction in their study [14].

Conclusion

The present investigation concluded that abnormal uterine bleeding found strongly associated with thyroid related

disorders. Hence the evaluation of thyroid function forms an essential component among abnormal uterine bleeding patients. That can lead to early diagnosis as well as treatment preventing unnecessary surgical interventions.

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