



PREVALENCE OF THYROID DISORDERS AMONG WOMEN WITH AUB

Obstetrics & Gynaecology

Dr Mahak
Rathore*Senior Resident, Department of Obstetrics and Gynaecology, Dr. SS Tantia Medical
College and Hospital, Sri Ganganagar, Rajasthan. *Corresponding Author

ABSTRACT

Introduction: Abnormal uterine bleeding is a common gynaecological ailment that may point to a number of underlying clinical issues. Between menarche and menopause, it affects 9–14 percent of women, which decreases quality of life and increases financial burden. **Methods:** The cross-sectional observation study was conducted in the department of Gynecology and Obstetrics in tertiary care center over a one year. Women with age between 25–45 year with provisional diagnosis of abnormal, uterine bleeding with USG finding showing no organic pathology. **Results:** In our study observe that the euthyroid, 31 to 35 years was the most common age group. In hypothyroid, the most common age was 31 to 35- and 46-50-years age groups. We observed that there was no significant association between age groups and thyroid status of patients (p value=0.462). Euthyroid patients, 42.53% of patients had menorrhagia while hypothyroid patients, 27.78% of patients had oligomenorrhea. Among 8 cases of hyperthyroidism, 2 had menorrhagia. There was no significant association between AUB pattern and thyroid status (p value=0.186). **Conclusion:** Abnormal uterine bleeding is a common gynaecological OPD issue (AUB). It has numerous causes, including thyroid problems. While certain abnormal menstruation patterns are linked to thyroid issues, they are neither consistent or suggestive. Regardless of menstruation irregularity, a thyroid profile seems sense. Importantly, since AUB and thyroid dysfunction are more common during perimenopause, testing for thyroid dysfunction should be the initial step in treating AUB.

KEYWORDS

AUB, Thyroid, Free T3

INTRODUCTION

Abnormal uterine bleeding (AUB) is a prevalent gynaecological complaint that might indicate several underlying clinical problems. About 9–14 percent of women experience it between menarche and menopause, which lowers quality of life and adds to financial strain.¹ FIGO, 2018 proposed the helpful nomenclature PALM-COEIN to categorise the aetiology of abnormal uterine bleeding (AUB). The first section talks about structural disorders, and the second section talks about non-structural illnesses.²

One of the biggest endocrine glands in the neck, the thyroid gland weighs over 20 grammes in an adult. It secretes the two main hormones, triiodothyronine and thyroxine, which are regulated by the anterior pituitary's secretion of thyroid stimulating hormone. It is well recognised as one of the most adaptable hormones, influencing the human body from conception to death. Cell differentiation, bodily growth, basal metabolism, and reproductive physiology are a few of the crucial roles. Gonadotropins and prolactin from the anterior pituitary, along with direct metabolic effects, are the two main ways that the thyroid gland regulates the gonads.³

Women experience thyroid issues at a higher rate than males do. Goitrous growth during menarche, pregnancy, and menopause is another indication that the female and male reproductive systems are more closely related than the male. Menstrual irregularities, infertility, early puberty, and delayed puberty have all been linked to thyroid issues.⁴

Abnormal uterine bleeding may be linked to thyroid disorders, including both hypothyroidism and hyperthyroidism. Basedov discovered the first correlation between thyroid disorders and menstruation irregularities in 1840. He noticed a correlation between hyperthyroidism and amenorrhea. Menorrhagia is one of the symptoms of hypothyroidism. Both amenorrhea and oligomenorrhea may be caused by hyperthyroidism.^{5,6} The present study was aimed to evaluate the prevalence of thyroid disorders among women with AUB.

METHODS

The cross-sectional observation study was conducted in the department of Gynecology and Obstetrics in tertiary care center over a one year. Women with age between 25–45 year with provisional diagnosis of abnormal, uterine bleeding with USG finding showing no organic pathology. Women having bleeding disorders or coagulopathies., women on hormonal drugs, prolonged antacid, antipsychotics, steroids and IUCD user, women having organic causes of abnormal uterine bleeding such as fibroid, polyp, cervical growth, endometriosis and adenomyosis., lactating women, patient who refused for consent.

Data were collected using a pre-designed semi-structured study

proforma. A patient information sheet will be provided to every eligible subject for the study and thereafter written informed consent will be taken from the participants in this study. The details of all the participants will be recorded in the standardized format. All the women will undergo the history and clinical examination and various investigation will be performed.

Statistical Analysis

The data were analyzed by using SPSS version 20. The data was analyzed by simple proportions and percentages. The association and relation between different parameters were analyzed using chi-square test.

RESULTS

Baseline Characteristics

Baseline characteristics show that 200 patients were included. The mean age of the patients was 33.45 ± 6.14 years, ranging from 25 to 50 years. It was observed that most of the patients 28% were in the age group of 31 to 35 years and 22% in age group of 36 to 40 years followed by ≤ 30 years (10%), 41–45 years (20%), and 46–50 years (19%). 65% of patients were multiparous, 24% of patients were grand multiparous, and 4% of patients were nulliparous. Irregular cycles were found in 28% of patients. 35% of the patients had AUB for less than 6 months, 334% had AUB for 6 to 12 months, and 301% had AUB for 13 to 18 months. In our study, the most common AUB pattern in present study was menorrhagia (40%) followed by Metrorrhagia (15%), Polymenorrhoea (14%), Oligomenorrhea (12%), Hypomenorrhoea (10%) and Menometrorrhagia (9%) (Table 1).

Table 1: Baseline Characteristics

Baseline Characteristics	Frequency (n=200)	Percentage (%)
Age (Years)		
≤ 30	20	10%
31-35	56	28%
36-40	44	22%
41-45	42	21%
46-50	38	19%
Mean Age (Years)	33.45 ± 6.14	
Parity		
Nulliparous	22	11%
Multiparous	130	65%
Grand multiparous	48	24%
Menstrual cycle		
Regular	144	72%
Irregular	56	28%
Duration of AUB		
<6	70	35%

6 to 12	68	34%
13 to 18	62	31%
Pattern of AUB		
Menorrhagia	80	40%
Metrorrhagia	30	15%
Polymenorrhoea	28	14%
Oligomenorrhoea	24	12%
Hypomenorrhoea	20	10%
Menometrorrhagia	18	9%

Thyroid Function

In our study observed that free T3 decreased 11% and increased by 3%, free T4 decreased in 12% and increased in 4%, and TSH was decreased in 3% and increased in 14% (Table 2).

Table 2: Thyroid Function

Baseline Characteristics	Frequency (n=200)	Percentage (%)
Free T3		
Decrease	22	11%
Increase	6	3%
Normal	172	86%
Free T4		
Decrease	24	12%
Increase	8	4%
Normal	168	84%
TSH		
Decrease	6	3%
Increase	28	14%
Normal	166	83%

Thyroid Status In AUB

In our study, we diagnosed that 87% were euthyroid. Thus, thyroid abnormalities were diagnosed in 13%. Among these, the most common thyroid abnormality was hypothyroidism (9%). Hyperthyroidism was diagnosed in 4% of cases (Table 3).

Table 3: Thyroid Status In AUB

Thyroid Status in AUB	Frequency (n=200)	Percentage (%)
Euthyroid	174	87%
Hypothyroid	18	9%
Hyperthyroid	8	4%

Association Of Thyroid Status With Age Group

In our study observe that the euthyroid, 31 to 35 years was the most common age group. In hypothyroid, the most common age was 31 to 35- and 46-50-years age groups. We observed that there was no significant association between age groups and thyroid status of patients (p value=0.462).

Association Of Thyroid Status With Patter Of AUB

In our study observed that euthyroid patients, 42.53% of patients had menorrhagia while hypothyroid patients, 27.78% of patients had oligomenorrhoea. Among 8 cases of hyperthyroidism, 2 had menorrhagia. There was no significant association between AUB pattern and thyroid status (p value=0.186).

Table 2: Duration Of Abnormal Uterine Bleeding

Duration of AUB (Month)	Frequency (n=200)	Percentage (%)
<6	70	35%
6 to 12	68	34%
13 to 18	62	31%

Table 4: Association Of Thyroid Status With Age Group

Age (Years)	Thyroid Status			P Value
	Euthyroid (n=174)	Hypothyroid (n=18)	Hyperthyroid (n=8)	
≤30 (20)	15 (8.62%)	3 (16.67%)	2 (25%)	0.462
31-35 (56)	48 (27.59%)	5 (27.78%)	3 (27.50%)	
36-40(44)	41 (23.56%)	2 (11.11%)	1 (12.50%)	
41-45 (42)	39 (22.41%)	3 (16.67%)	0 (0%)	
46-50 (38)	31 (17.82%)	5 (27.78%)	2 (25%)	

Table 5: Association Of Thyroid Status With Patter Of AUB

Pattern of AUB	Thyroid Status			P Value
	Euthyroid (n=174)	Hypothyroid (n=18)	Hyperthyroid (n=8)	
Menorrhagia	74 (42.53%)	4 (22.22%)	2 (25%)	0.186

Metrorrhagia	27 (15.52%)	2 (11.11%)	1 (12.5%)	
Polymenorrhoea	25 (14.37%)	2 (11.11%)	1 (12.5%)	
Oligomenorrhoea	18 (10.34%)	5 (27.78%)	1 (12.5%)	
Hypomenorrhoea	18 (10.34%)	1 (5.56%)	1 (12.5%)	
Menometrorrhagia	12 (6.90%)	4 (22.22%)	2 (25%)	

DISCUSSION

AUB can lead to multitude of effects ranging from medical, social, and financial issues. It can lead to serious loss of work, decrease in quality of life, and drain financial resources. Therefore, early diagnosis and management can alleviate some of the concerned issues.⁷

The mean age of the patients was 33.45±6.14 years, ranging from 25 to 50 years. It was observed that most of the patients 28% were in the age group of 31 to 35 years and 22% in age group of 36 to 40 years followed by ≤30 years (10%), 41-45 years (20%), and 46-50 years (19%). 65% of patients were multiparous, 24% of patients were grand multiparous, and 4% of patients were nulliparous. Irregular cycles were found in 28% of patients. 35% of the patients had AUB for less than 6 months, 334% had AUB for 6 to 12 months, and 301% had AUB for 13 to 18 months. In our study, the most common AUB pattern in present study was menorrhagia (40%) followed by Metrorrhagia (15%), Polymenorrhoea (14%), Oligomenorrhoea (12%), Hypomenorrhoea (10%) and Menometrorrhagia (9%). In a study by **Ramesh and Rajeshwari** the common age group encountered in our study ranged between 21-70 years. AUB was most observed in the age group of 31-40 years.⁸ In a study by **Nair and Mallikarjuna** was found that the highest proportion of patients were in the age group of 40 – 41 years (30%) followed by 44 – 45 years (28%), 48 – 49 years (16%), 50 years (12%) and 42 – 43 years (6%). 72% were multiparous, 24% were grand multiparous, and 4% nulliparous.⁹ In a study by **Gerema et al** the mean ages of the respondents were 32 (±7) years.¹⁰ In a study by **Joshi et al** discovered that menorrhagia was the most prevalent form of uterine bleeding at 45 (47.37%), followed by metrorrhagia at 20 (21.05%), and oligomenorrhoea at 3 (3.16%).¹¹ In a study by **Hema et al**, menorrhagia was the most prevalent menstrual disorder pattern seen in AUB, accounting for 51.34 percent (268 of total 522 cases).¹² In a study by **Mishra et al**, menorrhagia (41.4%) was the most prevalent manifestation of AUB, followed by polymenorrhoea.¹³

In our study observe that the euthyroid, 31 to 35 years was the most common age group. In hypothyroid, the most common age was 31 to 35- and 46-50-years age groups. We observed that there was no significant association between age groups and thyroid status of patients (p value=0.462). Euthyroid patients, 42.53% of patients had menorrhagia while hypothyroid patients, 27.78% of patients had oligomenorrhoea. Among 8 cases of hyperthyroidism, 2 had menorrhagia. There was no significant association between AUB pattern and thyroid status (p value=0.186). In the research by **Joshi et al**, 15.79% (8.46-23.12 at 95% CI) of the total cases with abnormal uterine haemorrhage had thyroid dysfunction, which is comparable to our findings.¹¹

Hema et al noted that the thyroid status was evaluated in all AUB patients, and abnormalities, including hypothyroidism and hyperthyroidism, were detected in 12.27% of cases. The proportions of euthyroid, hypothyroid, and hyperthyroid patients were 87.73% (458 of 522), 8.81% (46 of 522), and 3.44% (18 of 522), respectively. 60.86% of all hypothyroid cases were in patients older than 40 years (28 cases out of 46). 50% of all hyperthyroid cases occurred in those aged 21 to 30 years (9 out of 18 cases). There were more hypothyroid patients in the >40 years age group and fewer occurrences in the 20 years age group. It is statistically significant (p0.001) that a strong correlation exists between age groups and thyroid health.¹²

Mishra et al, reported that subclinical hypothyroidism was the most prevalent thyroid disease in AUB patients, followed by hypothyroidism.¹⁴ The authors found that thyroid dysfunction associated with AUB was most prevalent in those aged 45 years (33%), followed by those aged 20 years and 35-45 years. Menorrhagia was the most prevalent presentation in all age groups except those between 35 and 45 years, when Oligo/hypomenorrhoea was more prevalent.¹³

CONCLUSION

One of the most frequent gynaecological problems in the gynaecological OPD is abnormal uterine bleeding (AUB). Thyroid dysfunction is one of the many diverse etiologies that it manifests. While some aberrant menstruation patterns are associated with particular types of thyroid disorders, these patterns are neither

consistent nor indicative of a particular form of thyroid malfunction. Therefore, it seems sense to get a thyroid profile regardless of the menstrual irregularity pattern. Crucially, since perimenopause is a time when both AUB and thyroid dysfunction are more common, the first course of treatment for AUB during that time should involve testing for thyroid dysfunction.

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