



THYROID DISORDERS IN ABNORMAL UTERINE BLEEDING (AUB) AMONG REPRODUCTIVE AGE GROUP WOMEN - A CROSS-SECTIONAL STUDY IN A TERTIARY CARE HOSPITAL IN RMMC&H

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ABSTRACT

Introduction: Abnormal uterine bleeding is a common problem and its management can be complex. Thyroid hormones play a key role in the menstrual and reproductive function of women. It is recognized universally that menstrual disturbances may accompany clinical alterations in thyroid function. Both hypothyroidism and hyperthyroidism may result in menstrual disturbances. Since thyroid dysfunction is commonly prevalent in women, present study was conducted to assess the prevalence of thyroid disorders in abnormal uterine bleeding patients.

Aims and objectives

- To estimate the prevalence of thyroid disorders in women in reproductive age group with abnormal Uterine Bleeding (AUB).
- To evaluate thyroid function tests in women with AUB.
- To assess the menstrual patterns in women with thyroid disorders.

Material and methods

Study design: Hospital based Cross sectional study. Study area: Dept. of Obstetrics and Gynecology, Rajah Muthiah Medical College and Hospital, Annamalai University, Chidambaram – 608 002. Study period: 2 year

Materials: A predesigned and restructured questionnaire, routine blood investigation, trans-abdominal USG, serum T3, T4, TSH. Sample size: 100. Sampling: Systematic Random Sampling. Statistical Analysis: Analyzed using Epi-info version 3.5.2.

Results: Most of the AUB cases were in the age group of 30 - 45 years, (78%) followed by 21-30 years (13%) and 9% were in the age group of <20 years. Thyroid disorders were prevalent in 30% of the women studied. Hypothyroidism was present in 27% and Hyperthyroidism in 3% of the women with AUB. Thyroid dysfunction was most common in women aged between 30 – 45 yrs i.e. (82%). The commonest menstrual complaint was menorrhagia which was present in 72% of the AUB cases.

Conclusions: Thyroid dysfunction is associated with menstrual disturbances (abnormal uterine bleeding). Prevalence of hypothyroidism was more common than hyperthyroidism in AUB cases. Thyroid function tests should be performed in all patients with menstrual irregularities (AUB) to avoid unnecessary interventions.

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INTRODUCTION

Abnormal uterine bleeding is a common problem. Abnormal uterine bleeding (AUB) is defined as abnormal bleeding from uterus in absence of organic disease of the genital tract and its management can be complex. In gynecology, more than 20% of women present with Abnormal uterine bleeding. Physicians are often unable to identify the cause of abnormal bleeding even after a thorough history and physical examination. Abnormal uterine bleeding includes both dysfunctional uterine bleeding and bleeding from structural causes. Dysfunctional

bleeding can be anovulatory, which is characterized by irregular unpredictable bleeding, or ovulatory, which is characterized by heavy but regular periods (i.e., menorrhagia). Structural causes include fibroids, polyps, endometrial carcinoma, and pregnancy complications. Abnormal bleeding can also result from contraceptive methods. Systemic diseases that may cause abnormal uterine bleeding include hypothyroidism, cirrhosis, and coagulation disorders. The underlying cause of AUB is still uncertain, but in most cases it is associated with failure of ovulation and is a consequent of hormonal imbalance. Thyroid hormones play a key role in the

menstrual and reproductive function of women. It is recognized universally that menstrual disturbances may accompany clinical alterations in thyroid function, Thyroid disorders are far more frequent in women than in men. Thyroid dysfunction is associated with menstrual abnormalities in females of all age groups. These menstrual irregularities can be polymenorrhoea, menorrhagia, menometrorrhagia, intermenstrual bleeding, oligo/amenorrhoea etc. Both hypothyroidism and hyperthyroidism result in menstrual disturbances. Since thyroid dysfunction is commonly prevalent in women, present study was conducted to know the prevalence of thyroid disorders in abnormal uterine bleeding patients.

Aims and Objectives

- To estimate the prevalence of thyroid disorders in women in reproductive age group with abnormal uterine bleeding. (AUB).
- To evaluate thyroid function tests in women with AUB.
- To assess the menstrual patterns in women with thyroid disorders.

MATERIAL AND METHODS

A Hospital based Cross sectional study was carried out in the Dept. of Obstetrics and Gynecology, Rajah Muthiah Medical College and Hospital, Annamalai University, Chidambaram – 608 002. Every alternate woman in reproductive age group with complaints of menstrual irregularities presenting to the Gynecology OPD was included in the study. This came to about 100 women who were studied for the 2 year period. These patients were evaluated for AUB and their thyroid profile was studied. The study protocol included a thorough history taking regarding menstrual irregularities using a predesigned and prestructured questionnaire. This was followed by clinical evaluation of thyroid stigmata, abdominal and pelvic examination, routine blood investigation, trans-abdominal USG, serum T3, T4, TSH. Patients with other causes of AUB like organic lesions of genital tract, patients on hormonal treatment, bleeding disorders, drugs which alter thyroid metabolism, IUCD users etc. were excluded from the study.

Reference Values

Serum T4 – 60-120 ng/ml
 Serum T3 – 0.8-16 ng/ml
 Serum TSH – 0.5-5 mU/ml

Statistical Methods

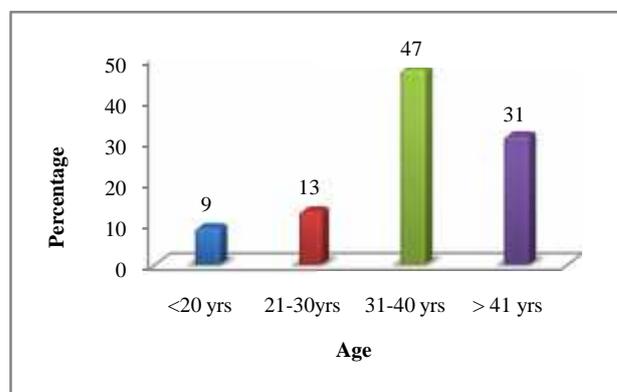
Data were entered into an excel spreadsheet and double checked for any errors. It was analyzed using spss version 16.0. Ethical clearance was obtained from the ethical committee of Rajah Muthiah Medical College and Hospital, Annamalai University, Chidambaram – 608 002.

RESULTS

Age Wise Distribution of the AUB patients showed that most of them were in the age group of 35 – 45 years (53%) followed by 25-34 years (31.3%) and 15.7% were in the age group of 15 – 24 years. (Table 1)

Table 1 Age Wise Distribution of AUB Cases

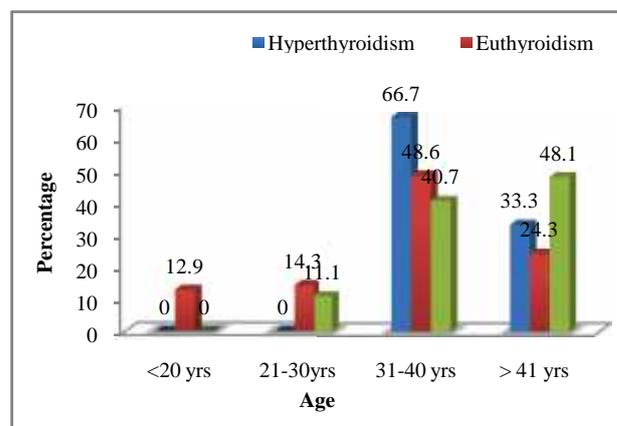
Age level	No. of patients	Percentage
<20 yrs	9	9.0
21-30yrs	13	13.0
31-40 yrs	47	47.0
> 41 yrs	31	31.0
Total	100	100.0



Thyroid dysfunction: Thyroid disorders were prevalent in 30% of AUB patients. The prevalence of Hypothyroidism was 27% and Hyperthyroidism was 3% among the AUB patients as assessed by the findings of their thyroid function tests. Age wise distribution of Hypothyroidism and Hyperthyroidism cases among AUB patients showed that though thyroid dysfunction is seen in all age groups, it is most common in 30 – 45 yrs (27%) with hypothyroidism in 22.7% and hyperthyroidism 9.1% of the AUB cases. (Table 2)

Table 2 Age level Thyroid level Crosstabulation

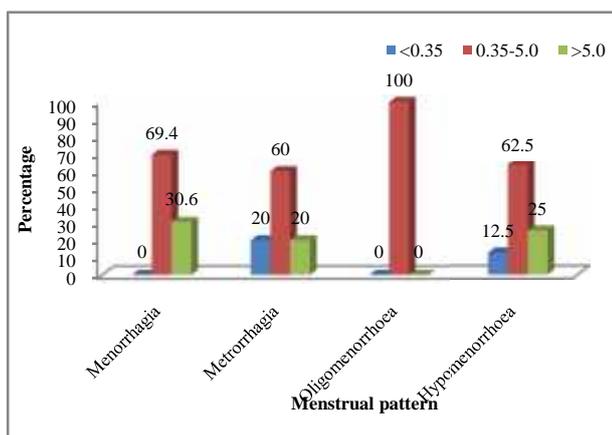
Age	Thyroid						Total	P value
	Hyperthyroidism		Euthyroidism		Hypothyroidism			
	N	%	N	%	N	%		
<20 yrs	0	.0	9	12.9	0	.0	9	9.0
21-30yrs	0	.0	10	14.3	3	11.1	13	13.0
31-40 yrs	2	66.7	34	48.6	11	40.7	47	47.0
> 41 yrs	1	33.3	17	24.3	13	48.1	31	31.0
Total	3	100.0	70	100.0	27	100.0	100	100.0



Menstrual Disorders in Hypothyroid & Hyperthyroid patients: The commonest menstrual complaint was menorrhagia (72%) followed by hypomenorrhoea (16%). Menorrhagia has been found to be one of the early manifestation of subclinical hypothyroidism which becomes symptomatic later. In hypothyroidism, 22 out of 27 patient had menorrhagia where as in hyperthyroidism, hypomenorrhoea

seems to more common. Hypothyroid patients had at least one of the following menstrual irregularities - menorrhagia, polymenorrhoea, oligomenorrhoea, hypomenorrhoea and metrorrhagia while hyperthyroid patients had hypomenorrhoea and metrorrhagia.

Menstrual pattern	TSH						Total	P value
	<0.35		0.35-5.0		>5.0			
	N	%	N	%	N	%		
Menorrhagia	0	.0	50	69.4	22	30.6	72	0.012
Metrorrhagia	1	20.0	3	60.0	1	20.0	5	0.073
Oligomenorrhoea	0	.0	8	100.0	0	.0	8	0.155
Hypomenorrhoea	2	12.5	10	62.5	4	25.0	16	0.052



DISCUSSION

Thyroid abnormalities are common in women with menstrual irregularities and even precede the onset of thyroid abnormalities in both hypo and hyperthyroidism. Menstrual irregularities ranges from oligomenorrhoea to menorrhagia.

A total of 100 patients with AUB were included in the present study. In present study group 78% women with AUB are in age group between 30-45 years. 13% women were between age groups of 21-30 years, 9% women were <20 years.

In our study 30% women with AUB had thyroid abnormalities. 27% were with hypothyroidism, 3% with hyperthyroidism and 17% were euthyroid which is correlating with study done by Neelu Sharma *et al.* (2012) (22% hypo, 14% hyper, 64% euthyroid).

Regarding the menstrual patterns of AUB, Menorrhagia was observed in 72% of persons, Oligomenorrhoea in 8%, hypomenorrhoea in 16% and metrorrhagia in 5% of patients which is correlating with the study of Padmaleela *et al.*

Menorrhagia was found to be more common in the age group 35-45 yrs (83%) whereas Oligomenorrhoea is found to be more common in patients <30 yrs (40%). Metrorrhagia and hypomenorrhoea seems to be more common in the age group of 35-45 years.

In 27% of hypothyroid patients with AUB 22% were found to have menorrhagia and 4% had hypomenorrhoea and 1% had metrorrhagia. Hence menorrhagia seems to be most common menstrual abnormality in hypothyroidism.

In 3% of hyperthyroid patients in our study, 2% had hypomenorrhoea and 1%, had metrorrhagia. So, hypomenorrhoea seems to be more common menstrual problem in hyperthyroidism according to our study which correlates with the study of Kaur *et al.*

CONCLUSIONS

Prevalence of hypothyroidism was more common than hyperthyroidism in AUB cases. It can be concluded that thyroid dysfunction is associated with menstrual disturbances (abnormal uterine bleeding) which get relieved with the correction of thyroid dysfunction, so thyroid assessment by thyroid function tests should be performed in all patients with menstrual irregularities (AUB) to avoid unnecessary interventions like hormone replacement and surgery.

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