ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 7, Issue – 2, April – 2022 , Page No. : 423 - 427

Abnormal Uterine Bleeding – Significance of Thyroid Profiling

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Citation this Article: Dr. Seema, Dr. Khushpreet Kaur, Dr. Vishav Veer Kaur, Dr. Balwinder Kaur, "Abnormal Uterine Bleeding – Significance of Thyroid Profiling", IJMSIR- April - 2022, Vol – 7, Issue - 2, P. No. 423 – 427.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Objective: Aim of the present study was to find the incidence of abnormal thyroid profile in patients presenting in the Gynae OPD with the complaints of abnormal uterine bleeding (AUB) and compare it statistically with thyroid profile of patients without AUB, to determine if the thyroid function abnormality contributes to AUB.

Methodology: It is a prospective study conducted in state medical college and hospital. Thyroid profile of 100 women with AUB was done in the hospital lab. 100 women without AUB were enrolled in control group and were screened for thyroid abnormalities.

Results: AUB and control groups were demographically similar. 24 patients in the AUB group had deranged thyroid profile as compared to control group which had only 5 patients with abnormal thyroid profile. The difference is statistically highly significant.

Conclusion: Thyroid dysfunction can be a cause of AUB. Many a times even subclinical dysfunction can lead to AUB. Thus it is important to screen all patients of AUB for thyroid function.

Keywords: Abnormal uterine bleeding, thyroid dysfunction, subclinical thyroid dysfunction.

Introduction

Abnormal uterine bleeding can be a stressful condition for any female. Uterine bleeding that has any abnormality related to amount of blood lost, frequency and duration of bleeding and its cyclicity can be termed Abnormal Uterine Bleeding (AUB). [1]. It is defined as abnormal bleeding without any clinical findings of pelvic pathologies like tumour, inflammation or pregnancy. [2]. AUB is the predominant finding in almost 15-20% of women between menarche and menopause and significantly affects the women's health. [3]. A significant load on the Obs & Gynae OPD in any hospital relates to AUB.

The menstrual cycle is a complex interaction between female reproductive system and the endocrine system.[4]. Endocrine system through its feedback mechanism controls and affects the uterine bleeding. Thyroid disorders are far more common in females than in males and that suggests a relationship to altered bleeding patterns.[5]. Thyroid dysfunction has been found to have significant correlation with AUB. [6]. Altered or

abnormal thyroid function can result in altered uterine bleeding patterns. Menorrhagia is usually associated with hypothyroidism and oligomenorrhea or hypomenorrhea with hyperthyroidism. [7].

Thyroid disorders are among the most common endocrine disorders in India.[8].

Aims and objectives

This study is aimed at evaluating the thyroid profile in patients of AUB and comparing that statistically with thyroid profile of females with normal menstrual pattern.

Material and methods

Present prospective study was conducted in the State Medical College. A total of 200 women from menarche to menopause were included in the study. Out of these, 100 women were those who presented with AUB in the Obs and Gynae department. The other 100 women had no menstrual abnormality and constituted the control group.

Exclusion criteria included

- Pregnant and puerperal patients
- Carcinoma thyroid
- IUCD users
- Bleeding disorders
- Patients on drugs that alter clotting time
- Any malignancy of genital organs.

Blood samples of all the participants were analysed for TSH, T3 and T4. Results of the analysis were compared statistically between the AUB and the control group.

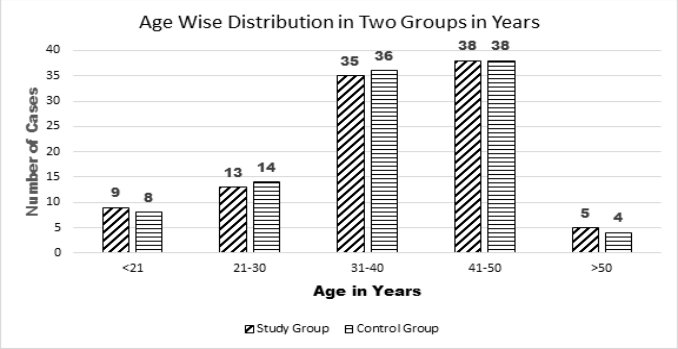
Observations

Both the groups, AUB and the control, had similar distribution of age which was statistically non-significant. (Table 1, Chart 1). Mean age in AUB group was 37.89 years and in control group it was 36.89 years.

Table 1: Distribution of subjects according to age.

Age (Years)	Study Group (n=100)		Control Group(n=100)	
	Subjects	Percentage	Subjects	Percentage
≤20	9	9%	8	8%
21-30	13	12.67%	14	14%
31-40	35	35%	36	36%
41-50	38	38.67%	38	38%
>50	5	4.67%	4	4%
Total	100	100%	100	100%
Mean Age	37.89±8.94years		36.89±8.55 years	
Median	40.00		39.00	
Range	12-53		17-52	
p-value			0.330	
Significance			Non-significant (>0.05)	

Chart 1:

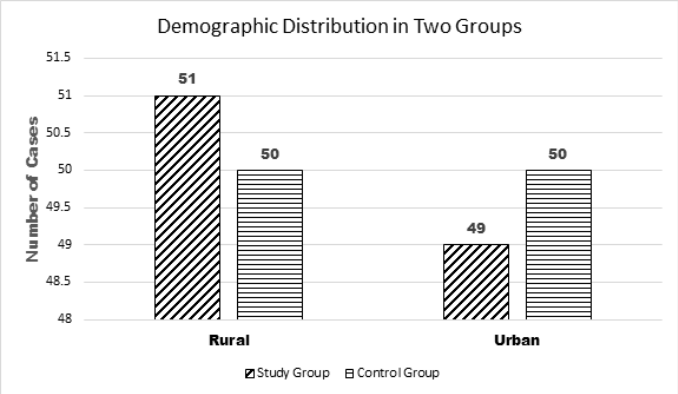


Distribution of subjects as per their area of residence, rural or urban, was similar in both the groups. There was almost equal distribution between rural and urban areas. (Table 2, Chart 2)

Table 2: Distribution of subjects according to demographic area of residence.

Area	Study Group (n=100)		Control Group(n=100)	
	Subjects	Percentage	Subjects	Percentage
Rural	51	51%	50	50%
Urban	49	49%	50	50%
Total	100	100%	100	100%
Chi Square		0.367		
P value		0.832		
Significance		Non-significant (>0.05)		

Chart 2:

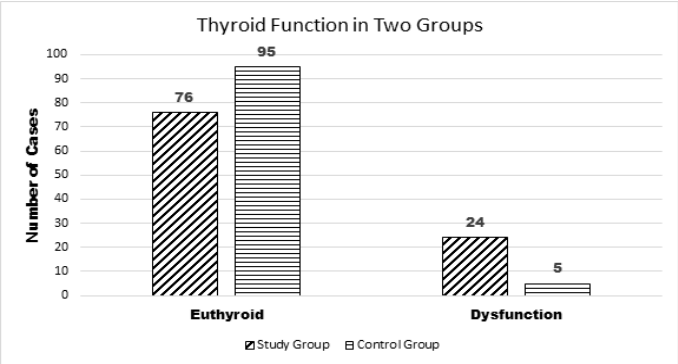


24 patients in the AUB group had deranged thyroid profile as compared to control group which had only 5 patients with abnormal thyroid profile. The difference is statistically highly significant. (Table 3, Chart 3).

Table 3: Distribution of subjects according to euthyroid status.

Euthyroid	Study Group(n=300)		Control Group(n=100)	
	Subjects	Percentage	Subjects	Percentage
Yes	76	76%	95	95%
No	24	24%	05	5%
Total	100	100%	100	100%
Chi Square			16.22	
p-value			0.001	
Significance			Highly significant (<0.05)	

Chart 3:

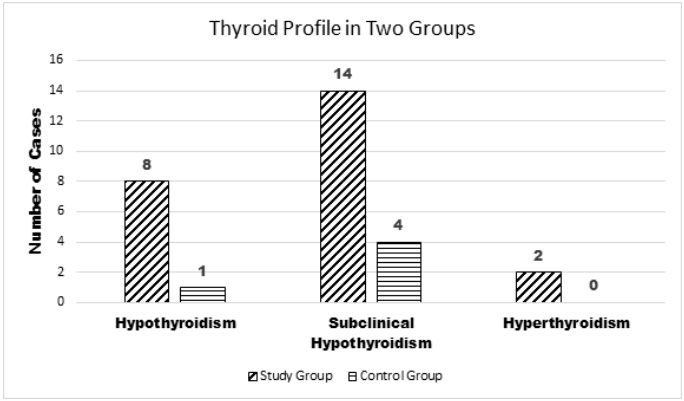


Out of 24 patients with thyroid dysfunction in AUB group, 8 had overt hypothyroidism, 14 had subclinical hypothyroidism and 2 had hyperthyroidism. Control group had 5 patients with thyroid dysfunction. Out of these, 1 had overt hypothyroidism and 4 had subclinical hypothyroidism. There was no case of hyperthyroidism in control group. Table 4.

Table 4: Distribution of subjects according to Thyroid dysfunction.

	Study Group (24/300)		Control Group (5/100)	
	Subjects	Percentage	Subjects	Percentage
Hypothyroidism	8	33.3%	1	20%
Subclinical Hypothyroidism	14	58.3%	4	80%
Hyperthyroidism	2	8.3%	0	0%
Total	24	100%	5	100%

Chart 4:



Discussion

Sometimes in the absence of any organic disease, it becomes difficult to find the cause of abnormal uterine bleeding. This study was conducted to establish a correlation between AUB and thyroid dysfunction.

Akinepalli P et al in their study included 50 subjects each in case group and control group. They found thyroid dysfunction to be more prevalent in AUB group. Incidence of hypothyroidism was higher than hyperthyroidism. Both the findings were statistically

significant. Findings of their study are similar to the present study. [9].

Nayak AK in a study of 150 cases, found thyroid disorder in 19.33% cases. Majority of the cases were of hypothyroidism. Findings are comparable to the present study. [10].

Farrukh R et all conducted a study on 300 patients with abnormal uterine bleeding and evaluated the thyroid profile of patients. They found thyroid dysfunction in 38% cases. This figure is higher than the present study. In their study, incidence of hyperthyroidism was more as compared to hypothyroidism. This is also in variance with the findings of the present study where the incidence of hypothyroidism is more. This variance can be due to the geographical differences of the population. [11].

Begum M et al in their study of 145 cases of AUB, found thyroid dysfunction in 23.44% of cases. Number of patients with hypothyroidism was much higher than number of patients with hyperthyroidism. These findings are similar to the findings of present study. [12].

Thakur M et al included 79 AUB patients in their study. 15.1% cases (12) had thyroid disorders. Out of these 12, eleven patients had hypothyroidism and only one had hyperthyroidism. These findings are in consonance with the findings of the present study. [13].

Kolli SN et al conducted a study of thyroid profile in 165 cases of AUB. 22.42% patients were found to be suffering from thyroid disorders when investigated. Cases of hypothyroidism were more than cases of hyperthyroidism. These findings are similar to the present study. [14].

Hema KR et al conducted a thyroid profile study in 522 cases of AUB. 12.27% cases were found to have thyroid dysfunction. Hypothyroidism was found to be much more common than hyperthyroidism. [15].

Bedi M et al in their study of 246 women with AUB, found thyroid disorders in 139 subjects. Majority of them had hypothyroidism (117/139). 22 out of 139 patients had hyperthyroidism. [16].

Prabhudev P et Al conducted a study on 100 subjects with menstrual complaints. They found 38% subjects to be suffering from hypothyroidism. 80% of patients with menorrhagia improved with treatment with Eltroxin. [17].

Tara compared thyroid functioning of 50 females with AUB and compared with those of 50 women who had normal menstrual cycle. Women with AUB had significant association with low T4 levels. A significant association was observed between women with AUB and hypothyroidism. [18].

Conclusion

Abnormal uterine bleeding can be a reason for mental and physical trauma for any woman. It also constitutes a considerable load on the Gynae and Obs OPD. The spectrum of investigations used to find the basic pathology should include the assessment of thyroid functions. The studies have shown that even subclinical hypothyroidism can lead to AUB. Every patient of AUB should have thyroid assessment, as this is one disorder that can be easily corrected and can result in improvement of symptoms of AUB.

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