THYROID DYSFUNCTION IN ABNORMAL UTERINE BLEEDING

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ABSTRACT

BACKGROUND

Abnormal Uterine Bleeding (AUB) refers to bleeding that is excessive or occurs outside of normal cyclic menstruation. AUB is described by a variety of terms and may be caused by a number of genital and non-genital tract conditions, systemic disorders and medications. Thyroid dysfunction is marked by large number of menstrual aberrations. This study is aimed at detecting thyroid dysfunction in patients with provisional diagnosis of AUB and refers positive cases to physician for further evaluation.

METHODS

50 cases of clinically diagnosed AUB were taken from Gynaecology OPD and inpatients of Yenepoya Medical College, Mangalore. All patients from 20 to 50 age groups presenting as menorrhagia, metrorrhagia, polymenorrhagia were tested for their thyroid function by T₃, T₄, TSH estimations in their serum. Patients who had clinical signs and symptoms of thyroid disease were on hormonal treatment, IUCD users or had bleeding disorders were excluded from the study.

RESULTS

20% of patients who were studied had thyroid dysfunction, of which 16% of patients had hypothyroidism and only 4% of patients had hyperthyroidism. The commonest bleeding abnormalities in subclinical hypothyroid patients were polymenorrhagia and menorrhagia.

CONCLUSIONS

Hypothyroid cases together were the commonest thyroid dysfunction and menorrhagia was their commonest menstrual abnormality. So this study concludes that biochemical evaluation of thyroid functioning should be made mandatory in all provisionally diagnosed cases of AUB to detect thyroid dysfunction.

KEYWORDS

Dysfunctional Uterine Bleeding, Abnormal Uterine Bleeding, Thyroid Dysfunction, Hypothyroidism, Subclinical Hypothyroidism, Hyperthyroidism, Menstrual Disorders.

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INTRODUCTION

Thyroid dysfunction has profound effects on the female reproductive system. It is recognized universally that menstrual disturbances may accompany clinical alterations in thyroid function and every clinician has encountered altered menstrual patterns among women suffering from hypothyroidism and hyperthyroidism. Thyroid disorders are ten times more common in women than in men.^[1]

Thyroid dysfunction causes a broad spectrum of reproductive disorders ranging from abnormal sexual development to menstrual irregularities, infertility and premature menopause. Abnormal uterine bleeding may involve any disturbance of frequency, duration, regularity or volume of menstrual flow and the causes may be physiological, pathological or pharmacological.^[2]

Hyperthyroidism reduces menstruation and hypothyroidism causes menorrhagia. Hyperthyroidism in contrast is associated with a menorrhagia and oligomenorrhoea and the decrease in flow is proportional to the severity of the thyrotoxicosis.^[3]

Menorrhagia denotes cyclical excessive bleeding either in amount or duration, whereas polymenorrhoea refers to shortened menstrual cycles. Oligomenorrhoea is the pattern of menstruation when cycle length exceeds 35 days. Menorrhagia affects 10-30% of menstruating women at one point of time. It may even effect up to 50% of premenstrual woman.

Patients with hypothyroidism in reproductive age group present with menorrhagia in early stage of the disease. Endometrium is mostly proliferative and sometimes even atrophic. Urinary pregnanetriol levels are low which suggests failure of LH production, ovulation and resultant menorrhagia. In later stages secondary depression of pituitary occurs, leading to ovarian atrophy and amenorrhoea. Hypometabolism in hypothyroidism is held to increase in prolactin secretion, which may inhibit gonadotropin leading to amenorrhoea. The underlying aetiology of hypothyroidism commonly found is lymphocytic thyroiditis, thyroidectomy and anti-thyroid drugs.^[1] This study is done to highlight the importance of thyroid evaluation in patients with abnormal uterine bleeding.

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MATERIAL AND METHODS

It is a retrospective study done on patients with abnormal uterine bleeding who was admitted and treated between May 2014 - July 2015 in the Department of Obstetrics and Gynaecology, Yenepoya Medical College, Deralakatte. Detailed history, examination findings, blood investigation reports which includes haemoglobin level, thyroid profile and ultrasound findings were noted from the hospital medical records.

Data was tabulated and analysed using percentage and proportion. Patients with menstrual complaints between the age group 25-40 years were included in the study.

Patients with organic disorders of genital tract, on hormone therapy, bleeding disorders or with intrauterine contraceptive device in situ were excluded from the study.

RESULTS

Age	Number (n=50)	Percentage
21-30 Years	4	8%
31-40 Years	12	24%
41-50 Years	34	68%

Table 1: Out of the 50 Patients Included in my Study

Out of 50 people included in our study 4 (8%) of them belonged to 21-30 yrs. of age, 12 (24%) were between 31-40 yrs. and 34 (68%) between 41-50 years of age.

Thyroid Status	Age in Years			Total		Total
	20-30	31-40	41-50			
Euthyroid	4	9	27	40		40
Hypothyroid	0	2	6	8		8
Hyperthyroid	0	1	1	2		2
Total	4	12	34	50		50

Table 5: Distribution of Patients According to Thyroid Status in Relation to Age & Parity (n=50)

Of the total 8 patients with hypothyroidism, 2 (4%) patients belonged to the age group of 31-40 years, 6 (12%) belonged to the age group of 41-50 years, while none were between 20-30 years of age. Among hyperthyroidism, one each belonged to age group of 31-40 and 41-50 yrs. Of the total 8 hypothyroid patients, 1 was among nulliparous while other 7 was among multiparous women. Both cases of hyperthyroidism were among parous women.

Bleeding Pattern	Age Groups (Years)			Total	Thyroid Status			Total
	20-30	31-40	41-50		Euthyroid	Hypothyroid	Hyperthyroid	
Menorrhagia	2	6	18	26	23	3	0	26
Menometrorrhagia	1	2	4	7	5	1	1	7
Polymenorrhagia	1	4	12	17	12	4	1	17
Total	4	12	34	50	40	8	2	50

Table 6: Distribution of Patients According to Age & Thyroid Status in Relation to bleeding Pattern Parity (n=50)

Of the total 26 menorrhagic patients, 6 (12%) belonged to the 31-40 years of age, 18 (36%) to 41-50 years of age and rest 2 (4%) to 20-30 years of age. Of the total 7 patients with menometrorrhagia, 2 (4%) belonged to the age group of 31-40 years, 8% to 41-50 years of age and 2 % to the age group of 20-30 years; 24%, i.e. 12 out of the total 17 patients with polymenorrhagia belonged to 41-50 years age group, 4 (8%) to 31-40 and 1 (2%) to 20-30 years of the total 8 hypothyroid patients, 3 (6%) had menorrhagia, 4 (8%) had polymenorrhoea, 1 (2%) of hyperthyroidism, one each patient had menometrorrhagia and polymenorrhoea.

Parity	Number (n=50)	Percentage
Nulliparous	5	10%
Parous	45	90%

Table 2:

90% of patients included in our study were parous ladies

Thyroid Status	Number of Patients	Percentage
Euthyroid	40	80
Hypothyroid	8	16
Hyperthyroid	2	4

Table 3: Distribution of Patients According to Thyroid Status (n=50)

Out of the total of 50 patients studied, 80% were euthyroid, 16% were found to be hypothyroid (i.e. elevated TSH and decreased T3 and T4 levels) and 4% patients were found to be suffering from hyperthyroidism.

Bleeding Pattern	Number of Patients	Percentage
Menorrhagia	26	52
Menometrorrhagia	7	14
Polymenorrhagia	17	34

Table 4: Distribution of Patients According to Bleeding Pattern (n=50)

Out of the total 50 patients, 52% presented with menorrhagia making it the most prevalent complaint in our study. The next common complaint was polymenorrhagia accounting for 34% of cases. Menometrorrhagia accounted for 14%.

DISCUSSION

It has been aptly stated that dysfunctional uterine bleeding is as difficult to define as it is to cure. This malady affecting 10-15% of all gynaecological patients has been both rigidly and casually defined, related to single or multiple aetiological factors and given a variety of names ranging from functional to dysfunctional. Fortunately, scientific research has been able to demonstrate the complex cyclical interplay between hormones and uterus that leads to visible loss of endometrial tissue and blood called menstruation.

Thyroid disorders in general and hypothyroidism in

particular is extremely common, especially in women. Menarche, pubertal growth and development, menstrual cycles, fertility and foetal development, postpartum period, reproductive years and postmenopausal years are profoundly influenced by the thyroid status of the women.

Both Hyper and Hypothyroidism may result in menstrual disturbances, although the hormonal and other biochemical aberrations are not the same in these two disorders.

In the present study maximum number of cases, 68% were found between the age group of 40-50 years followed by the next common age group of 30-40 years (24%) (Table 1).

Das and Chugh.⁴ reported the highest incidence in 41-50 years of age group, i.e. 32.5% and 28.2% incidence in 31-40 years of age group. Narula.⁵ gave the highest incidence amongst the age group between 31-40 years (32.8%) followed by the next common age group of 41-50 years (29.1%). Of the parity, 90% were parous women.

Lee.⁶ concluded that thyroid disorders leading to menstrual dysfunction are most common amongst perimenopausal age group.

In the present study, the commonest complaint was menorrhagia in 52% of the total cases followed by polymenorrhagia 34%, menometrorrhagia was found in 14% of the cases (Table 4).

In the study conducted by Lacour et al⁽⁷⁾ found that the most common menstrual disturbance detected in thyroid patients was menorrhagia (75%). Moghal.⁽⁸⁾ quoted an incidence of 41% of menorrhagia and 36% of polymenorrhoea, while Shapely et al⁽⁹⁾ quoted an incidence of 54% of menorrhagia, which is in accordance with the present study.

In the present study, menorrhagia and metrorrhagia combined constituted 66% of the abnormal pattern and no case of amenorrhoea was reported. Menorrhagia and metrorrhagia, alone or combined, constituted the abnormal menstrual pattern in 75% of the patients in a study conducted by Scott and Mussey.⁽¹⁰⁾ which is in accordance with our study.

Ingbar et al¹¹ and Pearce et al¹² in their study demonstrated that menstrual irregularity is significantly more frequent in hypo or hyperthyroidism as compared to control cases. In hypothyroidism, polymenorrhoea is common and in hyperthyroidism hypomenorrhoea is common. Pushpa Sirichand.¹³ also confirmed the same that hypothyroidism causes menorrhagia and hyperthyroidism reduces menstruation.

CONCLUSION

Thyroid dysfunction should be considered as an important aetiological factor for menstrual abnormality. Biochemical estimation of T3, T4, TSH should be made mandatory in abnormal uterine bleeding, especially in non-structural causes and also in those presenting with fatigue, obesity, lethargy in addition to infertility delayed puberty and recurrent abortions. As there is high incidence of thyroid dysfunction in our area, this evaluation of thyroid in abnormal uterine bleeding would also avoid unnecessary surgeries and exposure to hormones

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