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Original Article

A Study of Thyroid Dysfunction in Patients with Provisional Diagnosis of Abnormal Uterine Bleeding

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ABSTRACT

Background: Abnormal uterine bleeding is an abnormal bleeding from the uterus in absence of organic disease of genital tract. AUB accounts for 10% of all gynaecology related complaints. Thyroid dysfunction by large number is associated with menstrual disorders.
Objective: To study thyroid dysfunction in patients with a provisional diagnosis of AUB of all age groups and refer positive cases to physician for further evaluation.
Methods: Clinically diagnosed cases of AUB were enrolled from gynaecology OPD of a tertiary hospital. All patients from puberty to premenopausal age groups presenting as menorrhagia, polymenorrhagia, oligomenorrhoea, polymenorrhoea and metrorrhagia were subjected to the thyroid function i.e. T3, T4, and TSH. All data was compiled and analysed.
Results: A total of 101 patients were studied. 22.77% of these patients had thyroid dysfunction of which 13% of patients had hypothyroidism, 8% of patients had subclinical hypothyroidism and only 2% of patients had hyperthyroidism. The commonest bleeding abnormality in hypothyroid patients were polymenorrhoea and menorrhagia. All hyperthyroid cases were oligomenorrhoeic.
Conclusion: Both hypothyroid and subclinical hypothyroid cases 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 in all provisionally diagnosed cases of AUB to detect thyroid dysfunction.

Key Words: *Abnormal Uterine Bleeding (AUB), Thyroid dysfunction, Hypothyroidism, Subclinical hypothyroidism, Hyperthyroidism*

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INTRODUCTION

Abnormal uterine bleeding is an abnormal bleeding from the uterus in absence of organic disease of genital tract. AUB accounts for 10% of all gynaecology related complaints. Thyroid dysfunction by large number is associated with menstrual disorders [1].

A normal cycle starts when pituitary follicle stimulating hormone induces ovarian follicles to produce estrogen. Estrogen stimulates proliferation of the endometrium. A luteinizing hormone surge prompts ovulation, the resultant corpus luteum produces progesterone, inducing a secretory endometrium. Any disruption in the normal physiology or anatomic changes in the endometrium results in abnormal uterine bleeding.

Initially AUB was broadly divided into two categories - anovulatory and ovulatory, but after November 2010 the International federation of gynaecology and obstetrics accepted a new classification system for causes of AUB in reproductive years. The system is based on acronym PALM-COEIN [2].

PALM (structural causes) → polyps, adenomyosis, leiomyoma, malignancy and hyperplasia. COEIN (non-structural causes) → coagulopathy, ovulatory disorders, endometrial causes, iatrogenic, not classified. Hyperthyroidism and hypothyroidism are both associated with menstrual abnormalities. Hypothyroidism can cause menorrhagia, metrorrhagia, polymenorrhoea, oligomenorrhoea [3]. Hyperthyroidism is associated with oligomenorrhoea and amenorrhoea [2]. Menorrhagia is most commonly encountered.

The serum TSH levels is very much sensitive indicator of diminished thyroid functional reserve .TSH levels become elevated before circulating serum tri iodo thyronine (T3) levels fall below normal range [4]. The condition of abnormal bleeding affects health related quality of life as heavy menstrual bleeding is associated with anaemiaand generalised weakness [5].

AIM & OBJECTIVE

To study the incidence of thyroid dysfunction in the patients with puberty to premenopausal age group with provisional diagnosis of AUB

INCLUSION CRITERIA

All women presenting with abnormal uterine bleeding between puberty to premenopausal age-group

EXCLUSION CRITERIA

Females patients with known thyroid disorder, using Intrauterine devices, oral contraceptive pills or hormonal therapy, coagulopathies, gynaecological conditions like endometriosis, fibroids, carcinoma of thyroid

METHODOLOGY

Clinically diagnosed cases of AUB from Gynaecology OPD in a tertiary centre were enrolled for this prospective cross sectional observational study. All patients from puberty to premenopausal age groups presenting with complaints of menorrhagia, polymenorrhagia, oligomenorrhoea, polymenorrhoea and hypomenorrhoea were examined thoroughly and was clinically diagnosed as AUB. Demographic data was collected. Thereafter, patients underwent Thyroid function test including T3, T4, and TSH by immunoassay method. The values were recorded and analysed. Entire data was recorded on excel sheet.

RESULTS

Table 1: Distribution of patients according to age-group

Age group (in years)	No. of cases	Percentage
Less than 20	10	9.9
21-30	16	15.84
31-40	43	42.58
More than 40	32	31.68
Total	101	

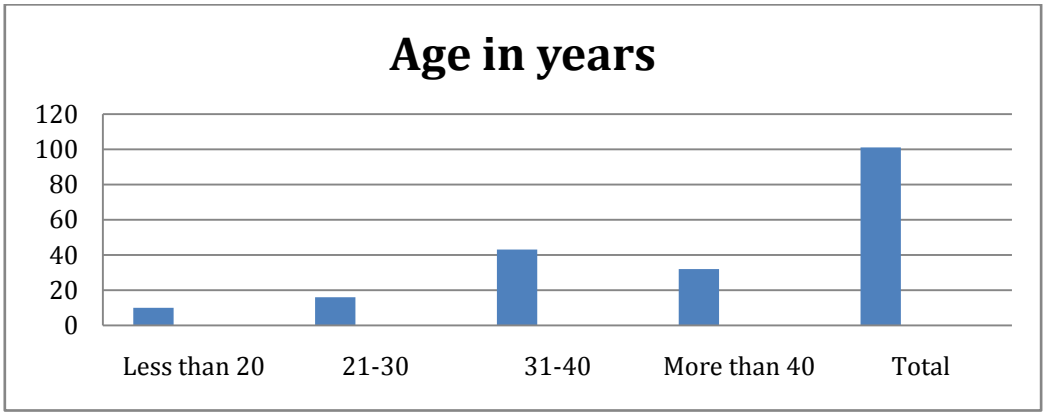

Figure 1: Distribution of patients according to age-group

A total of 101 patients were included in this study. Maximum patients belong to 31-40 years of age (42.58%) with mean age of 36.33 yearsand minimum was in less than 20 years age group (9.9%) in this study.

Table 2: Distribution of cases according to bleeding pattern

Symptoms	No. of cases	Percentage
Menorrhagia	47	46.53
Polymenorrhea	8	7.92
Oligomenorrhea	9	8.91
Metrorrhagia	6	5.95
Polymenorrhagia	15	14.85
Acyclical	16	15.84
Total	101	

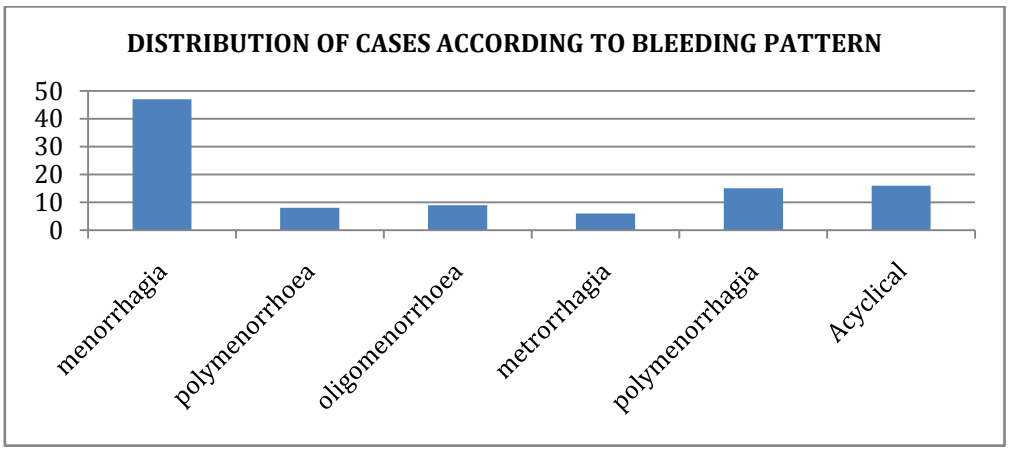

Figure 2: Distribution of cases according to bleeding pattern

Menorrhagia (46.53%) and Polymenorrhagia (14.85%) was the most common abnormal bleeding pattern found in these patients, followed byoligomenorrhea, polymenorrhea and metrorrhagia.

Table 3: Distribution of cases according to thyroid status

THYROID STATUS	NO OF CASES	PERCENTAGE
Euthyroid	**79**	**78.77**
Hypothyroid	**11**	**13.13**
Subclinical hypothyroid	**8**	**8.8**
hyperthyroid	**3**	**2.2**
Total	**101**	**100**

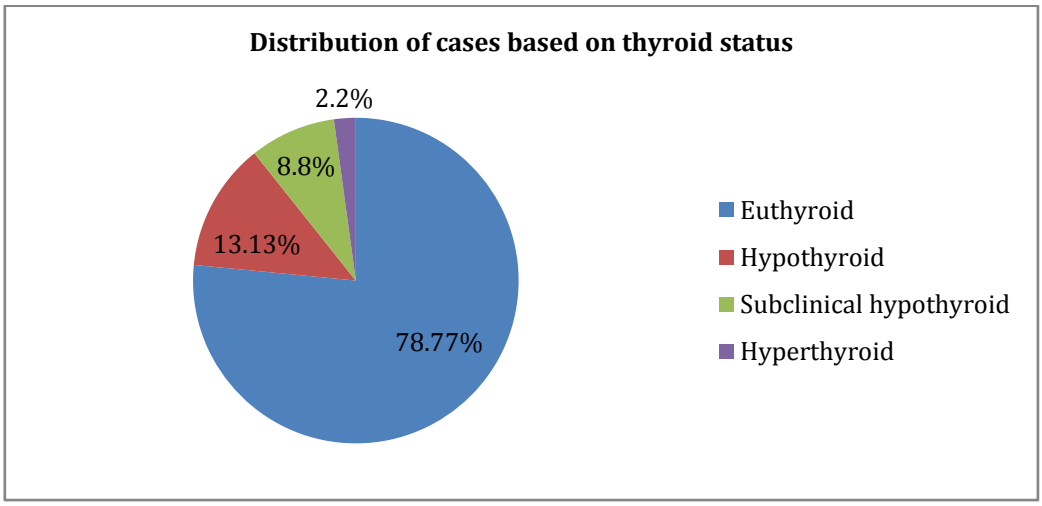

Figure 3: Distribution of cases according to thyroid status

Euthyroid wasobserved in 78.77% of menstrual abnormalities followed by hypothyroid and subclinical hypothyroid state.

Table 4: Distribution of bleeding symptoms in thyroid dysfunction

	Total no of cases	Euthyroid	percentage	Hypothyroid	percentage	Subclinical hypothyroid	percentage	Hyperthyroid	percentage
Menorrhagia	47	33	70.21	8	17.03	6	12.76	-	-
Polymenorrhoea	8	-	-	5	62.50	3	37.5	-	-
Oligomenorrhoea	9	2	22.22	4	44.44	1	11.11	2	22.32
Metrorrhgia	6	1	16.66	5	83.33	-	-	-	-
Polymenorrho	15	-	-	10	66.66	4	26.66	1	6.66

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Acyclical	16	14	87.5	1	6.25	1	6.25	-	-

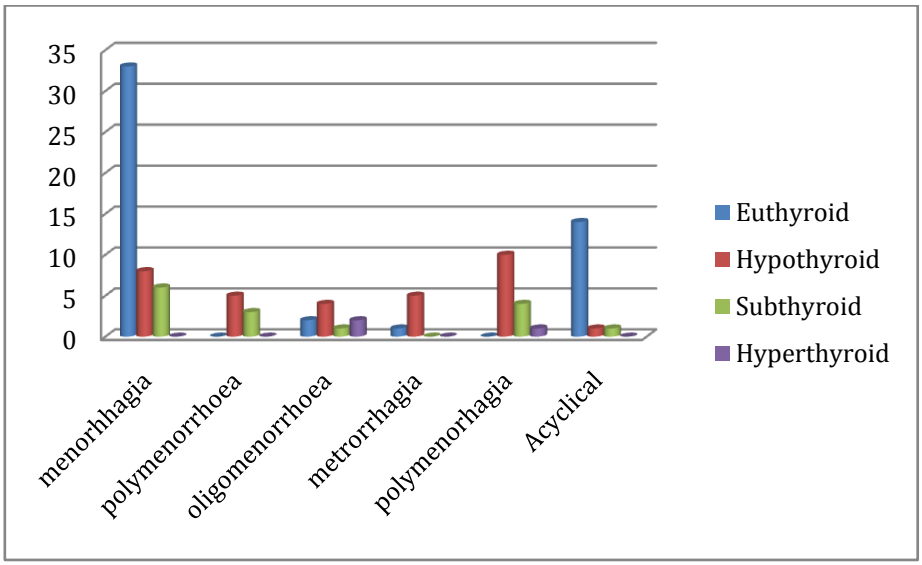

Figure 4: Distribution of bleeding symptoms in thyroid dysfunction

Menorrhagia is associated with 70.21% euthyroid, 17.03% with hypothyroid and 12.76% with subclinical hypothyroid. Acyclical with 87.5 %euthyroid, 6.25% hypothyroid and 6.25%subclinical hypothyroid

Subclinical hypothyroidism was seen in almost all types of bleeding disorders followed by Hypothyroidism, whereas oligomenorrhics were exclusively hyperthyroid.

Table 5: Thyroid dysfunction among different types of bleeding symptom

Bleeding patter n	Total no of cases	No of thyroid cases	Percentage
Menorrhagia	47	6	12.76
Polymenorrhoea	8	1	12.50
Oligomenorrhoea	9	2	22.22
Metrorrhagia	6	2	33.33
Polymenorrhagia	15	3	20.00
Acyclical	16	3	18.75

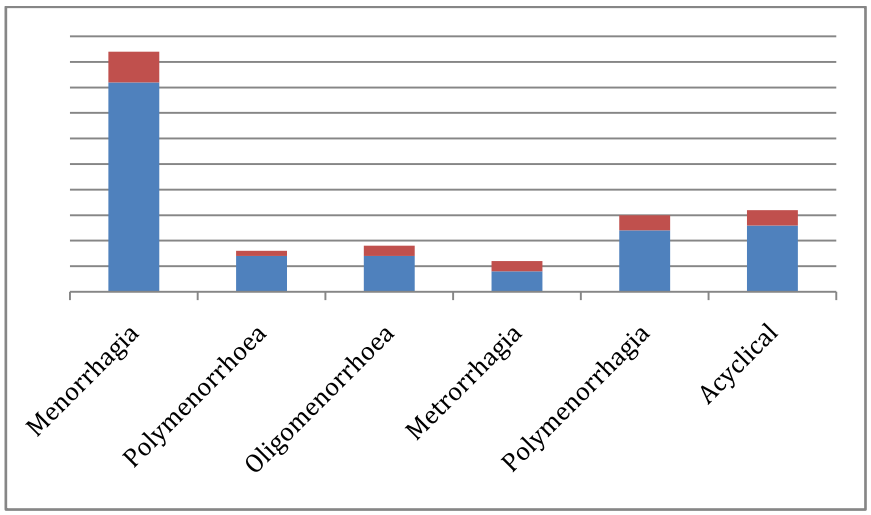

Figure 5: Thyroid dysfunction among different types of bleeding symptom

Thyroid disorder was found in metrorrhagia was 33.33%, followed by oligomenorrhoea 22.22%, acyclical 18.75% and menorrhagia with 12.76%.

DISCUSSION

Thyroid disorders result in a various range of menstrual irregularities ranging from menorrhagia to oligomenorrhoea. It also affects quality of life [6]. AUB puts large burden on gynaecological OPD, up to 20 % patients.

In this observational study, AUB was common in age group of 31-40 years (42.58%) followed by more than 40 years age group which is consistent with the study Javed Ali et al, Usharani N et al & Talasila Sruthi et al [6], however Malini Bhardwaj et al. study shows majority of patients below 20 years age group.

In this study, maximum patients were seen with complaint of menorhhagia (46.53%) followed by acyclical bleeding (15.84%) and polymenorrhagia (14.85%) which is corraborated with Sruthi T et al. [6], Verma SK et al [7]., Deshmukh PY et al [8], Ashok et al, gowri et al where maximum patient with menorrhagia.

In our study, prevalence of subclinical hypothyroidism is therewere of cases of hypothyroidism and case of hyperthyroidism. Prevalence of hypothyroidism in a study by Sruthi T et al [8] was, Bhardwaj M et al. [9] study was Similarly Euthyroid patient was highest as similar in Bhavani et al [10] and Shruthi et al [6].

In this study patients with abnormal thyroid dysfunction, highest number of patient had hypothyroid (83.33%) with menorrhagia as menstrual abnormality. This is supported by various study of Doifode et al, Singh et al, Wilansky and Bernard.

CONCLUSION

This study concludes that AUB is associated with thyroid dysfunction. Menorrhagia is most common complaint with hypothyroidism. Other menstrual abnormalities are also seen. Thus thyroid assessment should be done in all patients with menstrual irregularities as it is etiological factor. These patients with thyroid disorders if given medical treatment will avoid hormonal and surgical interventions.

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