

## Original article

# Study of thyroid profile in dysfunctional uterine bleeding

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### Abstract

**Background:** A relationship between the thyroid gland and the gonads is suggested by the far more frequent occurrence of thyroid disorders in women than in men and by the common appearance of goiter during puberty, pregnancy and the menopause.

**Material & Methods:** Present prospective study was conducted on 100 patients who presented with abnormal uterine bleeding at Varun Arjun Medical College,Shahjahanpur, UP.

**Results :** There were 100 women who were included in the study. Most of patients (30%) in less than 25 years age groups . Among 100 women ,42 had hypothyroidism, 3 patient had hyperthyroidism rest 55 were euthyroid.

**Conclusion:** The menstrual irregularities are significantly more frequent in patients with thyroid dysfunction and menorrhagia was the commonest menstrual abnormality.

**Keywords:** Dysfunctional uterine bleeding (DUB), Endometrial hyperplasia, Menorrhagia, Thyroid dysfunction.

### Introduction

A relationship between the thyroid gland and the gonads is suggested by the far more frequent occurrence of thyroid disorders in women than in men and by the common appearance of goiter during puberty, pregnancy and the menopause<sup>1</sup>. While activity of the thyroid is closely linked with the process of ovarian maturation, the thyroid gland is itself dependent on direct and indirect stimuli from the ovary to discharge its own function<sup>2</sup>.

It is recognized universally that menstrual disturbances may accompany and even may precede thyroid dysfunction .In the present study thyroid status of patients presenting with abnormal uterine bleeding was assessed by TSH, T3, and T4 assay. Both hypothyroidism and hyperthyroidism may result in menstrual disturbances. 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<sup>3</sup>.

Subclinical hypothyroidism (SCH) has recently been challenged as data have indicated that physiological free T4 (FT4) variations are narrower in one individual than those observed within the reference range of a population. These data might reflect an abnormally low FT4 value for patients who present a mildly increased serum TSH<sup>4</sup> Some authors have proposed restricting the upper normality limit of serum TSH to 2.5 mU/l. Today, however, there is no agreement among endocrinologists about the most appropriate (i.e. physiologically relevant) upper limit of normality for serum TSH.<sup>5</sup>

Treating thyroid dysfunction can reverse menstrual abnormalities and thus improve fertility. A close interplay between thyroid hormones and normal steroid action and secretion exists, necessary for normal ovarian function and thus fertility. Women with thyroid dysfunction often have menstrual irregularities, infertility and increased morbidity during pregnancy.<sup>16</sup>

### Material & Methods

Present study was conducted on 100 patients who presented with abnormal uterine bleeding at Varun Arjun Medical College, Shahjahanpur, UP . It was a prospective study conducted on 100 premenopausal women who were presented with abnormal uterine bleeding to the outpatient department . Inclusion Criteria

- All premenopausal women with AUB.

Exclusion Criteria

- Refusal for participation in study
- Women who are on drugs (like antiepileptic ,antipsychotic etc) or hormone therapy.

After selecting the women, informed consent was obtained. The case history and clinical examination of them were done, requested to do thyroid functioning test in fasting status in early morning and the results were evaluated. Other required investigations as per requirement were done and the patients were managed accordingly. The thyroid function tests were done by radioimmuno assays in the lab.

### RESULTS

Table 1: Age distribution of the patients.

Age (Years)	No. of cases	Percentage
Less than 25	30	30
26-30	27	27
31-35	20	20
36-40	12	12
41-45	11	11
Total	100	100

There were 100 women who were included in the study. Most of patients (30%) in less than 25 years age groups .

Table 2: Distribution of patients according to Thyroid status

Thyroid Status	No. of cases	Percentage
Euthyroid	55	55
Hypothyroid	42	42
Hyperthyroid	3	3
Total	100	100

Among 100 women ,42 had hypothyroidism, 3 patient had hyperthyroidism rest 55 were euthyroid.

Table 3: Distribution of Bleeding pattern in hypothyroid and hyperthyroid patients

Pattern of Bleeding	Hypothyroid (n=42)	Hyperthyroid (n=3)
Menorrhagia	25	0
Polymenorrhea	8	0
Acyclic	5	0
Oligomenorrhoea	2	2
Hypomenorrhoea	0	1
Metrorrhagia	2	0

Out of 42 hypothyroid patients, 25 had menorrhagia, 2 had oligomenorrhoea and out of 3 patient with hyperthyroidism Patients, 2 had oligomenorrhoea, 1 had Hypomenorrhoea.

### Discussion

Among 100 women, 42 had hypothyroidism, 3 patient had hyperthyroidism rest 55 were euthyroid. which was similar to study done by Joschi et al.<sup>6</sup> and N Bhavani et al<sup>7</sup>. One of the explanations is activity of thyroid is closely linked with the process of ovarian maturation. The thyroid gland is itself dependent on direct and indirect stimulation from the ovary to discharge its own function.

Out of 42 hypothyroid patients, 25 had menorrhagia, 2 had oligomenorrhoea and out of 3 patient with hyperthyroidism Patients, 2 had oligomenorrhoea, 1 had Hypomenorrhoea. which was similar to study done by Scott and Mussey<sup>8</sup> and Kaur T et al<sup>9</sup>.

Thyroid disorders are more common in women with menstrual irregularities ranging from menorrhagia to oligomenorrhoea as compared to general population. Woman with hypothyroidism, commonly presents with anovulation and unopposed oestrogen activity causes endometrial hyperplasia which may outgrow the blood supply and may cause local areas of necrosis that breaks down and produces bleeding. In hypothyroid patients the menstrual abnormality is much more severe and anovulatory cycles are common.

### Conclusion

The menstrual irregularities are significantly more in patients with thyroid dysfunction and may precede thyroid dysfunction. Thyroid dysfunction should be considered as an important etiological factor for menstrual abnormality.

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