

## PREVALENCE OF HYPOTHYROIDISM IN PATIENTS WITH PROVISIONAL DIAGNOSIS OF DUB

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**ABSTRACT: OBJECTIVE:** DUB accounts for 10% of all the gynecology related problems. This study is conducted to evaluate and detect the thyroid dysfunction in patients with dysfunctional uterine bleeding in all age groups especially in menorrhagic patients and to refer positive cases to the physician for the further management of thyroid disorder. **METHODS:** This prospective study consisted of 100 women who presented with menorrhagia to the out-patient department of OBG at Sri Adichunchunagiri Hospital And Research Centre, B. G. Nagar, Mandya district, which is a tertiary level hospital, over a period of two years from September 2010 to September 2012. These patients were categorized as euthyroid, subclinical hypothyroid, hypothyroid or hyperthyroid based on thyroid profile. **RESULTS:** In the study conducted, 11% were detected with thyroid disorders of which subclinical hypothyroidism was most prevalent (8%), 2% had hypothyroidism and 1% had hyperthyroidism. **CONCLUSION:** There is a high prevalence of thyroid disorders in cases clinically diagnosed as DUB. In our study 11% of the patients detected with thyroid disorder were treated medically which was more accurate and cost effective. Hence the biochemical evaluation of T3, T4, TSH is extremely important, valuable and should be made mandatory in cases of DUB to detect thyroid dysfunction thereby avoiding unnecessary surgery.

**KEYWORDS:** DUB, Thyroid dysfunction, Hypothyroidism, Subclinical Hypothyroidism, Hyperthyroidism.

**INTRODUCTION:** Dysfunctional uterine bleeding is an abnormal uterine bleeding due to disturbance in the hypothalamopituitary ovarian axis in the absence of any palpable pelvic pathology and demonstrable extragenital cause and it accounts for 10% of all gynaec related problems. Thyroid dysfunction is known to affect all aspects of reproductive function in the female.

The spectrum of thyroid disorders are associated with a variety of changes in reproductive function ranging from delayed onset of puberty, anovulatory cycles and abnormally high fetal wastage<sup>1</sup>. The most common reproductive system manifestation of hypothyroidism is menorrhagia. Although the occurrence of menstrual disturbances in hypothyroid women has been documented, the number of hypothyroid patients originally requiring treatment for menorrhagia has not been carefully elicited<sup>2</sup>. Majority of subclinical hypothyroid cases easily pass unrecognized and the prevalence of hypothyroidism is as high as 9.5% in women.<sup>3</sup> Danese MD et al recommend hypothyroidism is frequent enough to warrant consideration in most older woman, justifying screening even in asymptomatic older women.<sup>4</sup> Ely et al states that any menstrual irregularities in nonpregnant patients especially menorrhagia warrants TSH estimation.<sup>5</sup>

The introduction of serum triiodo thyronine (T3) and thyroid stimulating Hormone (TSH) radioimmunoassays has increased the sensitivity and specificity of thyroid function test. The serum TSH assay has been shown to be a sensitive indicator of diminished thyroid functional reserve, since

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TSH levels become elevated before circulating serum tri iodo thyronine (T3) levels fall below the normal range.<sup>6</sup>

This study is conducted to evaluate the thyroid function in patients having abnormal menstrual bleeding from puberty to premenopausal age groups to know the prevalence of hypothyroidism in patients provisionally diagnosed as DUB for further management.

**MATERIALS AND METHODS:** This prospective study consisting of 100 women who presented with menorrhagia to the out-patient department of OBG at Sri Adichunchunagiri Hospital And Research Centre, B. G. Nagar, Mandya district, which is a tertiary level hospital over a period of two years from September 2010 to September 2012.

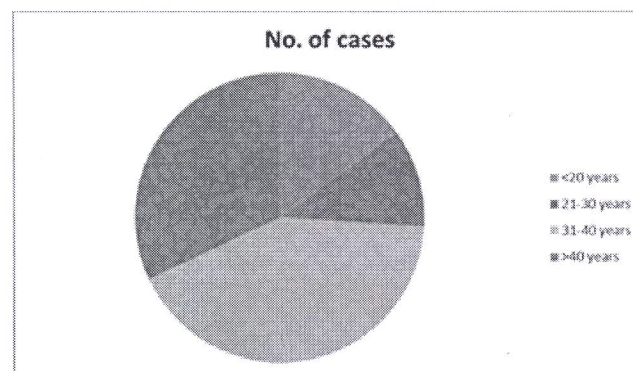
**INCLUSION CRITERIA:** All cases provisionally diagnosed to have dysfunctional uterine bleeding from puberty to premenopausal age group. All patients having major complaints of menstrual disturbances e.g., menorrhagia, polymenorrhoea, polymenorrhagia, metropathia hemorrhagica, metrorrhagia, oligo and hypomenorrhoea were included in the study.

**EXCLUSION CRITERIA:** Patients who are on drug or hormones, IUCD users, with overt clinical symptoms of thyroid dysfunction, history of bleeding disorders is excluded. Patients with goitre, Ca thyroid. Patients with clinical signs and symptoms of thyroid disease were excluded. These patients were categorized as euthyroid, subclinical hypothyroid, hypothyroid or hyperthyroid based on thyroid profile. A detailed history was obtained with special relevance to age, bleeding pattern-Onset, duration, amount of bleeding, complaints related to thyroid dysfunction. Clinical examination including general physical examination, systemic examination and gynecological examination was carried out with special reference to thyroid dysfunction; in cases with a provisional diagnosis of DUB. All the patients were subjected to routine investigations, thyroid profile. Thyroid profile was estimated in random blood samples as the variation in TSH secretion due to circadian rhythm is very minimal by Chemi Luminescence Immuno Assay (C.L.I.A) method using reagent monobind INC, USA ;Kit with the help of fully automatic alpha lite machine in Biochemical lab at Mysore. As per the results patients were categorized into euthyroid, subclinical hypothyroid, hypothyroid and hyperthyroid. Patients diagnosed with thyroid dysfunction were referred to physician for further management. Appropriate statistical methods proposed for the study was applied.

**RESULTS:** The demographic table shows the mean age group and parity of patients in the study belong to 31 -40years (42%) and para-2(37%) (TABLE 1).



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**DISTRIBUTION OF PATIENTS ACCORDING TO AGE**

The commonest symptom the patient presented is menorrhagia (45%), polymenorrhagia (17%) and acyclical bleeding (15%) (TABLE 2).

Age group	No. of cases	Percentage
Acyclical	15	15%
Menorrhagia	45	45%
metrorrhagia	5	5%
Oligomenorrhoea	10	10%
Polymenorrhoea	8	85
Polymenorrhagia	17	17%
<b>Total</b>	<b>100</b>	<b>100%</b>

**Distribution of patients according to symptoms**

The prevalence of subclinical hypothyroidism is 8%, hypothyroid (2%) and hyperthyroid (1%) as depicted in TABLE 3.

Thyroid function	No. of cases	Percentage
Euthyroid	89	89%
Hypothyroid	02	2%
Subclinical hypothyroid	08	8%
Hyperthyroid	01	1%
<b>Total</b>	<b>100</b>	<b>100%</b>

**DISTRIBUTION OF PATIENTS ACCORDING TO THYROID DYSFUNCTION**

The total thyroid disorders accounted for 11% the most common being subclinical hypothyroidism. In this study below 20 yrs. 2 had hypothyroidism and the rest were euthyroid. In the age group of 21 -30 yrs. 1 was diagnosed with hypothyroidism, 31 – 40 yrs. 1 was diagnosed hypothyroid and 3 patients were diagnosed with subclinical hypothyroidism. In above 40 yrs. 3 patients had subclinical hypothyroidism and 1 was diagnosed with hyperthyroidism. (TABLE 4)

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Age	No. of cases	acyclical	menorrhagia	metrorrhagia	Oligomenorrhoea	Polymenorrhoea	polymenorrhagia
<20years	15	1	3	2	3	1	5
21-30 years	11	5	3	1	0	1	1
31-40 years	42	5	21	2	3	6	5
>40 years	32	4	17	1	4	1	5

Distribution according to Age Group and Bleeding Pattern

The thyroid dysfunction in relation to abnormal bleeding pattern in our study revealed that the most common bleeding pattern presenting to us was metrorrhagia (20%) and the least being oligomenorrhoea (10%).the bleeding pattern varies with age as shown in our study – polymenorrhagia 33% (< 20 yrs.), acyclical bleeding 45.45% (21 – 30 yrs.), and menorrhagia – 50 – 53 % (> 31 YRS).

Type	No.	EU	Hypo	Subhypo	Hyper	Total	%	
Acyclical	15	13	1	1	0	2	2/15	13.33%
Menorrhagia	45	40	0	5	0	5	5/45	11.11%
Metrorrhagia	5	4	1	0	0	1	1/5	20.00%
Oligomenorrhoea	10	9	0	0	1	1	1/10	10.00%
Polymenorrhoea	8	8	0	0	0	-	-	-
polymenorrhagia	17	15	-	2	-	2	2/17	11.70%

Bleeding Pattern In Thyroid Dysfunction

TABLE 5 shows the relationship between bleeding pattern to thyroid disorder. The most common bleeding pattern is metrorrhagia (20%) and least commonly associated is polymenorrhoea. TSH is the most sensitive parameter in detecting thyroid disorders. 11 % had abnormal TSH level and 89% had normal TSH values in our study. T3 levels were found to be abnormal in 3 cases of which 2 had low T3 levels and one had higher than normal range. T3 alone does not appear to be a very sensitive parameter in detecting thyroid dysfunction.

**DISCUSSION:** The menstrual irregularities are significantly more frequent in patients with thyroid dysfunction and may precede thyroid dysfunction. Thyroid disorders may result in a spectrum of menstrual irregularities ranging from menorrhagia to oligomenorrhoea. According to Kakuno et al patients with severe hypothyroidism had a high prevalence of menstrual disturbances (34.8%) than mild to moderate cases (10.2%)<sup>8</sup>. In our study the mean age group with thyroid disorders was between 30 – 40yrs (42%). Most common presentation was menorrhagia ( 45.5%) in our study almost similar to study conducted by CD Doifode et al (63%). The least common bleeding pattern in our study was metrorrhagia (5%). In the study conducted by Kaur et al 14% were diagnosed with hypothyroidism similar to our study where 9% had subclinical and established hypothyroidism<sup>9</sup>. Wilkansky et al also reported the prevalence of 22% of early hypothyroidism in menorrhagic women.

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Joshi et al showed 44% of women with menstrual abnormalities apparently were euthyroid whereas in our study euthyroid patients constituted 85%. In our study 11% were diagnosed with thyroid disorders of which 8% had subclinical hypothyroidism, 2% were hypothyroid and 1% were diagnosed with hyperthyroidism. Out of 11% diagnosed with thyroid disorders 3 had abnormal T3 and one had abnormal T4 value. Kaur et al in their study diagnosed 15% of cases with subclinical hypothyroidism. In our study 80% of cases constituted subclinical hypothyroidism. Hence TSH appears to be the most sensitive test to evaluate thyroid function as it was abnormal in 100% of cases detected to have the disorder.

**CONCLUSION:** This prospective study was aimed at evaluating thyroid dysfunction in patients with DUB in all age groups most importantly in menorrhagic patients and treat them medically by referring to a physician thereby avoiding unnecessary surgery. In our study there was a high prevalence of thyroid disorders in cases clinically diagnosed with DUB (11%). 80% of the cases constituted subclinical hypothyroidism. The prompt response to treatment with thyroxine will not only preclude unnecessary surgery but will also prevent clinical thyroid disorder at a later date in cases of subclinical hypothyroidism. As subclinical hypothyroidism has a high prevalence in the population, it is mandatory to evaluate thyroid function in cases with DUB in all age groups.

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