ORIGINAL RESEARCH

Thyroid dysfunction in patients with abnormal uterine bleeding

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ABSTRACT

Background: Thyroid disorders are more common in women than in men and in older adults compared with younger age groups.The present study was conducted to assess thyroid dysfunction in patients with abnormal uterine bleeding. **Materials & Methods:** 90 patients with abnormal uterine bleeding were enrolled.Assessment of serum triiodothyronine (T3), thyroxine (T4), and thyroid stimulating hormone (TSH) level was done. **Results:** Age group 18-27 years had 25, 28-37 years had 30 and 38-47 years had 35 patients. The difference was non- significant (P> 0.05). The level of tri- iodothyronine was normal in 80, increased in 6 and decreased in 4, level of thyroxine was normal in 82, increased in 5 and decreased in 3 and level of TSH was normal in 76, increased in 8 and decreased in 6 patients. The difference was significant (P< 0.05). Out of 90 patients, 76 were euthyroid, 8 had hypothyroidism and 6 had hyperthyroidism. Under hypothyroidism, 3 had menorrhagia, 2 had oligomenorrhoea, 1 had menometorrhagia, 1 had polymenorrhoea and 1 had hypomenorrhoea. Under hyperthyroidism, 2 had menorrhagia, 2 had oligomenorrhoea, 1 had menometorrhagia and 1 had polymenorrhoea. The difference was significant (P< 0.05). **Conclusion:** Abnormal uterine bleeding patients had menorrhagia, oligomenorrhoea, menometorrhagia and polymenorrhoea complaints.

Key words: Abnormal uterine bleeding,

INTRODUCTION

Abnormal uterine bleeding (AUB) is one of the most common clinical presentations. It occurs in 10-20% of women between 15-50 years of age.[1] This may significantly affect the quality of life, results in time off work, lead to surgical interventions including hysterectomy, and ultimately have a significant impact on the health care system. The causes of abnormal uterine bleeding are polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory disorders, endometrial causes, iatrogenic, not classified.[2]

Thyroid disorders are more common in women than in men and in older adults compared with younger age groups. Hypothyroidism is associated with a wide spectrum of reproductive disorders ranging from abnormal sexual development, menstrual irregularities, and infertility.[3]The impact of hypothyroidism on the menstrual cycle has been identified since the 1950s and leads to changes in cycle length and blood flow. Subclinical hypothyroidism has been associated with occult menorrhagia before becoming symptomatic. The prevalence of subclinical hypothyroidism is as high as 9.5% in women.[4]

Hyperthyroidism occurring before puberty has been reported to delay the onset of menses. In women of fertile age group, oligomenorrhea and amenorrhea are the commonest abnormalities associated with hyperthyroidism. These irregularities sometimes precede thyroid dysfunction.[5] In the present times, subclinical hyper- and hypothyroidism can be diagnosed very early, whereas these would have passed unnoticed a few decades ago. Timely detection of thyroid disorder in patients presenting with menstrual disorders and their management can prevent surgical intervention like curettage and hysterectomy.[6]The present study was conducted to assess thyroid dysfunction in patients with abnormal uterine bleeding.

MATERIALS & METHODS

The present study comprised of 90women patients with abnormal uterine bleeding. All gave their written consent to participate in the study.

Demographic data such as name, age, etc. was recorded. A thorough general physical examination,

systemic examination, gynaecological, and pelvic examination was carried out. Parameters such as parity, menstrual history, onset and duration of complaints and amount of blood flow was recorded. Laboratory investigations such as assessment of hemoglobin, platelets, triiodothyronine (T3), thyroxine (T4), and thyroid stimulating hormone (TSH) level were measured in all patients. All patients were subjected to ultrasound of abdomen and pelvis. Results were tabulated and subjected to statisticalanalysis. P value less than 0.05 was considered significant.

RESULTS

Table I: Distribution of patients based on age group

Age group (Years)	Number	P value
18-27	25	0.72
28-37	30	
38-47	35	

Table I shows that age group 18-27 years had 25, 28-37 years had 30 and 38-47 years had 35 patients. The difference was non- significant (P> 0.05).

Table II: Assessment of thyroid profile

Thyroid function	Normal	Increased	Decreased	P value
Tri- iodothyronine	80	6	4	0.02
Thyroxine	82	5	3	0.01
TSH	76	8	6	0.05

Table II, graph I shows that the level of tri-iodothyronine was normal in 80, increased in 6 and decreased in 4, level of thyroxine was normal in 82, increased in 5 and decreased in 3 and level of TSH was normal in 76, increased in 8 and decreased in 6 patients. The difference was significant (P< 0.05).

Graph I: Assessment of thyroid profile

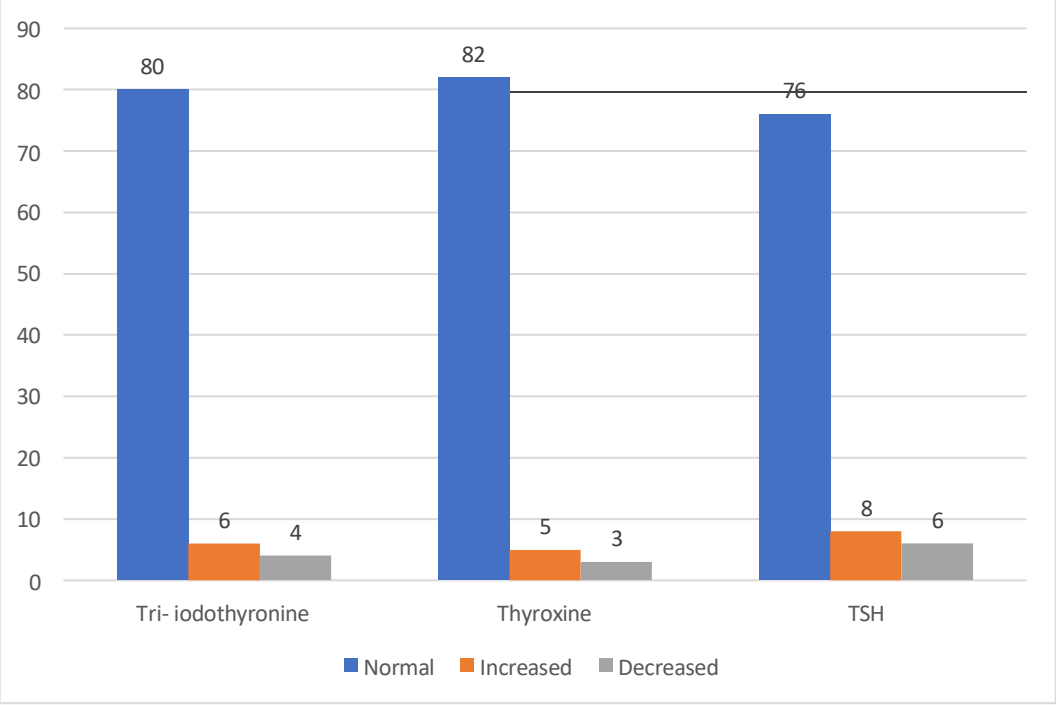

Table III: Patterns of abnormal uterine bleeding

Bleeding pattern	Hypothyroidism (8)	Hyperthyroidism (6)	P value
Menorrhagia	3	2	0.05
Oligomenorrhoea	2	2	
Menometorrhagia	1	1	
Polymenorrhoea	1	1	
Hypomenorrhoea	1	0	

Table III shows that out of 90 patients, 76 were euthyroid, 8 had hypothyroidism and 6 had hyperthyroidism. Under hypothyroidism, 3 had menorrhagia, 2 had oligomenorrhoea, 1 had

menometorrhagia, 1 had polymenorrhoea and 1 had hypomenorrhoea. Under hyperthyroidism, 2 had menorrhagia, 2 had oligomenorrhoea, 1 had menometorrhagia and 1 had polymenorrhoea. The difference was significant (P< 0.05).

DISCUSSION

Menstrual disorders pose a huge burden on gynecology OPD, accounting for approximately 20% of attendance.[7]Thyroid hormones play an important role in normal reproductive physiology through direct effects on the ovaries and indirectly by interacting with sex hormone-binding globulin. Thyroid dysfunction can lead to menstrual irregularities and infertility. In India, thyroid disorders are among the most common endocrine diseases.[8]

Onset of thyroid disorders increases with age, and it is estimated that 26 % of premenopausal and menopausal women are diagnosed with thyroid disease.[9] Thyroid dysfunction may have profound effects on the female reproductive system. Both hypothyroidism and hyperthyroidism are associated with a variety of changes in reproductive function, including delayed onset of puberty, anovulatory cycles and abnormally high fetal wastage.[10,11]The present study was conducted to assess thyroid dysfunction in patients with abnormal uterine bleeding.

We found that age group 18-27 years had 25, 28-37 years had 30 and 38-47 years had 35 patients. Thakur et al[12]in 79 patients with abnormal uterine bleeding, 67 (84.8%) were euthyroid, 11 (13.9%) were hypothyroid, and 1 (1.2%) was hyperthyroidism. The most common type of abnormal uterine bleeding was menorrhagia 34 (43%), followed by polymenorrhoea 23 (29%), oligomenorrhoea 13 (16.5%), menometrorrhagia 6 (7.6%), metrorrhagia 2 (2.5%), and hypomenorrhea 1 (1.3%). The maximum number of patients was between 20-25 years with the mean age of 31 years. Among hypothyroid, 7 (8.8%) had subclinical hypothyroidism and 4 (5%) had frank hypothyroidism.

We observed that the level of tri- iodothyronine was normal in 80, increased in 6 and decreased in 4, level of thyroxine was normal in 82, increased in 5 and decreased in 3 and level of TSH was normal in 76, increased in 8 and decreased in 6 patients. Subedi et al[13] determined incidence of thyroid disorders in dysfunctional uterine bleeding and its correlation with menstrual patterns.The incidence of gynecological OPD attendance due to abnormal uterine bleeding was 3%.and the incidence of thyroid dysfunction was 10.6% with hypothyroidism being the commonest(9.3%). The commonest menstrual pattern found was menorrhagia/polymenorrhoea in 8 percent.

We observed that out of 90 patients, 76 were euthyroid, 8 had hypothyroidism and 6 had hyperthyroidism. Under hypothyroidism, 3 had menorrhagia, 2 had oligomenorrhoea, 1 had menometorrhagia, 1 had polymenorrhoea and 1 had hypomenorrhoea. Under hyperthyroidism, 2 had menorrhagia, 2 had oligomenorrhoea, 1 had menometorrhagia and 1 had polymenorrhoea. Joshi et al[14]found the prevalence of thyroid dysfunction in diagnosed cases of abnormal uterine bleeding. Out of the total cases of abnormal uterine bleeding, 15 (15.79%) had thyroid dysfunction. Among total cases, 80 (84.21%) were euthyroid. The mean age of the patients was 33±8 years. Among thyroid dysfunction, 9 (60.0%) were hypothyroid, 4 (26.66 %) were subclinical hypothyroid, and 2 (13.33 %) were hyperthyroid.

Ajmani et al[15] comprised of 100 women with menstrual complaints. The control group consisted of 50 women. Thyroid function tests, anti-TPO antibody estimation, and endometrial sampling were done in all patients. In patients with menstrual disorders, 44% had thyroid disorders in which subclinical hypothyroidism was prevalent in 20%, overt hypothyroidism in 14%, and overt hyperthyroidism in 8% of the women. Autoimmune thyroid antibodies were present in 30% patients of women with menstrual disorders. On endometrial sampling, hypothyroid patients mainly had proliferative endometrium (42.85%) whereas hyperthyroid had atrophic endometrium (60%).

CONCLUSION

Authors found that abnormal uterine bleeding patients had menorrhagia, oligomenorrhoea, menometorrhagia and polymenorrhoea complaints.

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