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Original Research Article

A prospective study of thyroid dysfunction in dysfunctional uterine bleeding

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ABSTRACT

Background: Dysfunctional uterine bleeding is abnormal uterine bleeding in the absence of any palpable pelvic pathology and demonstrable extra genital causes. Thyroid dysfunction is the systemic disease most often associated with abnormal uterine bleeding. Aim was to evaluate thyroid function test in women with DUB; to assess bleeding pattern in thyroid dysfunction.
Methods: Prospective observational study was done in the department of obstetrics and gynaecology, Vanivilas hospital, Bangalore from august 2018 to July 2019. Pre structured and predesigned proforma filled. All routine blood investigations including serum T3, T4, TSH, USG were advised. These patients were categorized as euthyroid, subclinical hypothyroid, hypothyroid or hyperthyroid based on thyroid profile.
Results: 0.5% belonged to the age group of 31-40 years, prevalence of subclinical hypothyroidism is 11%, there were 5.5% of cases of hypothyroidism and 1.5% case of hyperthyroidism.
Conclusions: Thyroid screening must be done mandatory for all the cases of DUB and prompt response to treatment with thyroxine would avoid unnecessary surgeries, hormonal treatment, and associated comorbities.

Keywords: Anaemia, Dysfunctional uterine bleeding, Thyroid

INTRODUCTION

There were 10% to 30% of reproductive-aged women will experience abnormal uterine bleeding in their life-time. This condition affects health-related quality of life and is a frequent reason for medical consultation.[1] The International Federation of Gynaecology and Obstetrics in November 2010, accepted a new classification system for causes of AUB in the reproductive years.

Thyroid dysfunction is the systemic disease most often associated with abnormal uterine bleeding.[2] Hypothyroidism can result in menorrhagia, metrorrhagia, polymenorrhea, oligomenorrhea and amenorrhea.[3] Oligomenorrhea, polymenorrhea and menorrhagia are the menstrual disorders most commonly reported, while amenorrhea is rare.[3] Thyroid disorders are 10 times more common in females than males.[4]

Dysfunctional uterine bleeding is abnormal uterine bleeding in the absence of any palpable pelvic pathology and demonstrable extra genital causes.[5]

The serum TSH assay has been shown to be a sensitive indicator of diminished thyroid functional reserve, since TSH levels become elevated before circulating serum tri iodo- thyronine (T3) levels fall below the normal range.[6] The effect abnormal uterine bleeding has on a women's Health Related Quality of Life (HRQL) derives from both the efforts associated with managing menstrual bleeding and the consequences of excessive blood loss, such as fatigue and iron deficiency anaemia.[7]

The reported incidence of subjective menorrhagia in myxoedema varies from 32-80% and menorrhagia may not infrequently be the presenting complaint. Hyperthyroidism, in contrast is associated with oligomenorrhoea and amenorrhea which are in proportion to the severity of thyrotoxicosis.[8] The system based on the acronym PALM COEIN (polyps, adenomyosis, leiomyoma, malignancy and hyperplasia-coagulopathy, ovulatory disorders, endometrial causes, iatrogenic, not classified) was developed in response to concerns about the design and interpretation of basic science and clinical investigation that relates to the problem of AUB.[9]

METHODS

Prospective observational study was done in the department of obstetrics and gynaecology, Vanivilas hospital, Bangalore from August 2018 to July 2019.

Inclusion criteria

- All the patients attending gynaecology OPD with DUB from puberty to menopause were included.

Exclusion criteria

- Patients on drugs and hormone therapy, IUCD users, women with carcinoma thyroid, bleeding disorders and with organic pelvic lesions were excluded from the study.

Complete history including age, obstetric history, menstrual history, complains, onset, duration, amount of blood flow, any other complain were noted in detail. Complete examination including general examination, systemic examination and gynaecological examination in married women was carried out. Pre structured and predesigned proforma filled. All routine blood investigations including serum T3, T4, TSH, USG were advised.

These patients were categorized as euthyroid, subclinical hypothyroid, hypothyroid or hyperthyroid based on thyroid profile. Statistical analysis was done by chi-square test.

RESULTS

According to the Table 1, 42.5% of the patient belonged to the age group of 31-40 years, 31.5% belonged to the age group of >40 years, 16% belonged to the age group of <20 years and 10% belonged to the age group of 21-30 years.

According to the Table 2, maximum patients were seen with complaint of menorhhagia (44.5%), following which was acyclical bleeding (18%) and polymenorrhagia (15%).

According to the Table 3, prevalence of subclinical hypothyroidism is 11%, there were 5.5% of cases of hypothyroidism and 1.5% case of hyperthyroidism.

Table 1: Distribution of patients according to age.

Age group	No. of cases	Percentage
<20 years	32	16%
21-30 years	20	10%
31-40 years	85	42.5%
>40 years	63	31.5%
Total	**200**	**100%**

Table 2: Distribution of patients according to symptoms.

Symptoms	No. of cases	Percentage
Acyclical	36	18%
Menorrhagia	89	44.5%
Metrorrhagia	12	6%
Oligomenorrhea	20	10%
Polymenorrhea	13	6.5%
Polymenorrhagia	30	15%
Total	**200**	**100%**

Table 3: Distribution of patient according to thyroid function.

Thyroid function	No. of cases	Percentage
Euthyroid	164	82%
Hypothyroid	11	5.5%
Subclinical hypothyroid	22	11%
Hyperthyroid	3	1.5%
Total	**200**	**100%**

Menorrhagia was the most common presenting complaint (44.5%). Out of these 84.26% patients were euthyroid and most common thyroid disorder was subclinical hypothyroidism ie 12.35%, followed by hypothyroidism (3.37%). Among the cases of polymenorrhagia, oligomenorrhoea and polymenorrhoea subclinical hypothyroidism was more common ie. 16.6%, 10% and 7.6%.

Among the cases of oligomenorrhoea and polymenorrhagia hyperthyroidism was more common ie. 10% and 3.3%. According to the table, prevalence of thyroid dysfunction in DUB is 18%.

Although menorrhagia is the most common presentation of DUB cases but thyroid was detected in 15.73% of cases. In cases of acyclical bleeding, metrorrhagia, oligomenorroea, polymenorrhea and polymenorrhagia thyroid dysfunction was detected in 16.6%, 33.33%, 20%, 15.38% and 20% of cases respectively.

Table 4: Bleeding pattern in thyroid dysfunction.

Thyroid dysfunction	Acyclical (36)	Menorrhagia (89)	Metrorrhagia 12)	Oligo menorrhea (20)	Poly menorrhea (13)	Poly menorrhagia (30)
Euthyroid	30	75 (84.26%)	8 (66.6%)	16 (80%)	11 (84.61%)	24
Hypo-thyroid	4	3 (3.37%)	4 (33.33%)	0	0	0
Subclinical hypothyroid	2	11 (12.35%)	0	2 (10%)	2 (15.3%)	5 (16.6%)
Hyper thyroid	0	0	0	2 (10%)	0	1 (3.3%)

Table 5: Percentage of thyroid dysfunction among different bleeding pattern.

Bleeding pattern	Total no of cases	No of thyroid cases	Percentage
Acyclical	36	6	16.6%
Menorrhagia	89	14	15.73%
Metrorrhagia	12	4	33.33%
Oligomenorrhea	20	4	20%
Polymenorrhea	13	2	15.38%
Polymenorrhagia	30	6	20%

DISCUSSION

Hypothyroidism is 10 times more common in females.[4] It affects the reproductive and menstrual functions of women from puberty to menopause.[10]

Thyroid disorders may result in a spectrum of menstrual irregularities ranging from menorrhagia to oligomenorrhoea. It also affects quality of life and put a significant financial burden on society.[11]

In the study, majority of the patient 42.5% belonged to the age group of 31 - 40 years, in a study by Talasila Sruthi et al, also majority of the patients belonged to the age group of 31-40 years whereas in a study by Malini Bhardwaj et al., majority of patients belonged to < 20 years age group.

In the study, maximum patients were seen with complaint of menorhhagia (44.5%), following which was acyclical bleeding (18%) and polymenorrhagia (15%). In a study by Sruthi T et al., Verma SK et al [14]., Deshmukh PY et al [15]., also maximum patient had menorrhagia.

In our study, prevalence of subclinical hypothyroidism is 11%, there were 5.5% of cases of hypothyroidism and 1.5% case of hyperthyroidism. Prevalence of hypothyroidismin a study by Sruthi T et al was 8%, Bhardwaj M et al. study was 12%.

In present study, although menorrhagia is the most common presentation of DUB cases but thyroid dysfunction was detected in 15.73% of cases.

CONCLUSION

In present study, prevalence of thyroid dysfunction in DUB is 18%. Hypothyroidism is more common than hyperthyroidism. Prevalence of subclinical hypothyroidism in DUB cases is 11%. Therefore thyroid screening must be done mandatory for all the cases of DUB and prompt response to treatment with thyroxine would avoid unnecessary surgeries, hormonal treatment, and associated comorbities.

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