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 comorbidities.

Keywords: Anaemia, Dysfunctional uterine bleeding, Thyroid
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 oligomenorrhea and amenorrhea which are in proportion to the severity of thyrotoxicosis. 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.

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 complaint 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 menorrhagia (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, oligomenorrhea 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, oligomenorrhoea, polymenorrhoea and polymenorrhagia thyroid dysfunction was detected in 16.6%, 33.33%, 20%, 15.38% and 20% of cases respectively.
Hypothyroidism is 10 times more common in females. It affects the reproductive and menstrual functions of women from puberty to menopause.

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.

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 menorrhagia (44.5%), following which was acyclical bleeding (18%) and polymenorrhagia (15%). In a study by Sruthi T et al., Verma SK et al, Deshukh PY et al, 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.

### DISCUSSION

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

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 comorbidities.

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