

PATTERN OF ABNORMAL UTERINE BLEEDING IN HYPOTHYROID FEMALES OF REPRODUCTIVE AGE GROUP – A PROSPECTIVE STUDY

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Abstract

Introduction: Thyroid dysfunction may have profound effect on the female reproductive system. Hypothyroidism results in change in cycle length and amount of bleeding leading to oligomenorrhea, amenorrhea, polymenorrhea, and menorrhagia ***Objective:*** This study was conducted to see menstrual patterns in hypothyroid females of reproductive age group in Kashmir, Jammu & Kashmir. ***Study Design:*** Prospective cohort study ***Material and Methods:*** 50 patients who presented to OPD with complaints of abnormal uterine bleeding in Dept of Obstetrics & Gynaecology, SKIMS, Kashmir were recruited. ***Statistical Analyses:*** Data presented as percentages for qualitative variables. For continuous variable, student 't-test' was applied and to see for association among the variables , chi-square test was used. P value less than 0.05 was considered as statistically significant. ***Results:*** In our study among hypothyroid reproductive women, most common pattern of AUB was menorrhagia that was around 58% (29/50) followed by polymenorrhea 22 % (11/50). Hypomenorrhea, oligomenorrhea and amenorrhea were present in 8%, 6 % and 6 % respectively. ***Conclusion:*** In hypothyroid females presenting with AUB, menorrhagia is the most common abnormal pattern of bleeding followed by polymenorrhea. Hypomennorhea, oligomennorhea and amenorrhea were less common.

Keywords- Hypothyroidism, AUB

INTRODUCTION

Thyroid dysfunction may have profound effect on the female reproductive system. A relationship between thyroid gland and gonads is suggested by the common appearance of goiter during puberty, pregnancy and the menopause (1). Thyroid disorders are ten times more common in women than in men (2). The menstrual cycle is governed by network of gonadotropins and sex steroid hormones ; key constituents of the hypothalamic-pituitary-gonadal axis. This system is closely related to the hypothalamic-pituitary-thyroid axis, which controls thyroid function (3).

However, the relationship between thyroid function and female reproductive physiology is complex. During the investigations of abnormal uterine bleeding, abnormal sexual development, delayed puberty, hirsutism, infertility and recurrent pregnancy loss, the possibility of thyroid dysfunction must always be considered (2). While activity of 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. Both hyperthyroidism and hypothyroidism have significant effects on estrogen and androgen metabolism, menstrual function, and fertility (4). In women of child-bearing age, abnormal uterine bleeding includes any change in menstrual-period frequency or duration, or amount of flow, as well as bleeding between cycles (5). Hypothyroidism results in change in cycle length and amount of bleeding leading to oligomenorrhea, amenorrhea, polymenorrhea, and menorrhagia. Menorrhagia is probably due to estrogen breakthrough bleeding secondary to anovulation (6). Defects in hemostasis, such as the decreased levels of factors VII, VIII, IX, and XI that have been demonstrated in hypothyroidism, may also contribute to polymenorrhea and menorrhagia (7). Endometrium is mostly proliferative and sometimes even atrophic. In later stages, secondary depression of pituitary occurs, leading to ovarian atrophy and amenorrhea. Hypothyroidism is held to increase prolactin secretion which may inhibit gonadotrophin leading to amenorrhea. The underlying etiology of hypothyroidism commonly found is lymphocytic thyroiditis, thyroidectomy and anti-thyroid drugs.

This prospective cohort study was conducted to see menstrual patterns in hypothyroid females of reproductive age group in Kashmir, Jammu & Kashmir.

MATERIALS AND METHODS

Study Design- Prospective cohort study

Place of Study- Department of Obstetrics & Gynaecology, SKIMS, Srinagar

Duration of Study - November 2017 to November 2018

Study Population

50 patients who presented to OPD with complaints of abnormal uterine bleeding in Dept of Obstetrics & Gynaecology, SKIMS, Kashmir were recruited.

Inclusion Criteria

1. Age 20-35 years
2. Patients with hypothyroidism (Diagnosed by serum -TSH, fT3, fT4)
3. Non-pregnant females

Exclusion Criteria

1. Age below 19 years, & above 35 years

2. Pregnant females

3. Any other cause leading to abnormal uterine bleeding (PCOD, polyp, fibroid, adenomyosis, endometriosis, endometrial hyperplasia, malignancy, coagulopathy, ovulatory, drugs etc)

METHODOLOGY

94 patients with history of abnormal uterine bleeding and hypothyroidism were recruited in the study after taking informed consent. 44 patients were excluded due to presence of other causes contributing to abnormal uterine bleeding.

Proper history was taken for the pattern of abnormal uterine bleeding and classified as following (8). Per vaginum examination was also conducted.

1.	Oligomenorrhea	Bleeding occurs at intervals of > 35 days and usually is caused by a prolonged follicular phase.
2.	Polymenorrhea	Bleeding occurs at intervals of < 21 days and may be caused by a luteal-phase defect.
3.	Menorrhagia	Bleeding occurs at normal intervals (21 to 35 days) but with heavy flow (≥ 80 mL) or duration (≥ 7 days).
4.	Menometrorrhagia	Bleeding occurs at irregular, noncyclic intervals and with heavy flow (≥ 80 mL) or duration (≥ 7 days).
5.	Amenorrhea	Bleeding is absent for 6 months or more in a non-menopausal woman.
6.	Metrorrhagia	Irregular bleeding occurs between ovulatory cycles; causes to consider include intermenstrual cervical disease, intrauterine device, endometritis, polyps, submucous myomas, endometrial hyperplasia, and cancer.

The following investigations were carried out : Blood group, CBC, PT/INR, Blood Sugar (fasting and post-prandial), thyroid profile (S. TSH, freeT3, and freeT4) and ultrasound pelvis.

STATISTICAL ANALYSES

Data presented as percentages for qualitative variables. For continuous variable, student 't-test' was applied and to see for association among the variables , chi-square test was used. P value less than 0.05 was considered as statistically significant.

RESULT

Table 1 Menstrual pattern in relation to thyroid status

Type Of Abnormal Uterine Bleeding	N=50	Percentage (%)
Menorrhagia	29	58

Polymenorrhea	11	22
Oligomenorrhea	3	6
Amenorrhea	3	6
Hypomenorrhea	4	8

In our study among hypothyroid reproductive women, most common pattern of AUB was menorrhagia that was around 58% (29/50) followed by polymenorrhea 22 % (11/50). In our study, hypomenorrhea, oligomenorrhea and amenorrhea were present in 8%, 6 % and 6 % respectively.

Discussion

In our study among hypothyroid reproductive women, most common pattern of AUB was menorrhagia that was around 58% (29/50) followed by polymenorrhea 22 % (11/50). Singh et al (9) reported incidence of menorrhagia as 33 % in hypothyroid infertile women. In our study, hypomenorrhea, oligomenorrhea and amenorrhea was present in 8%, 6 % and 6 % respectively. Krassas et al found 42.5% incidence of oligomenorrhea in their study, which was inconsistent with our study (6). In a study conducted by Urmi SJ et al, the proportion of abnormal menstrual history was found high among hypothyroid group almost 34 % (n=27) compared to euthyroid group 13.4% (n=8) and the difference was statistically significant ($p < 0.001$) (10).

Strength of study was that it was a prospective study. The main limitation was that controls were not taken.

CONCLUSION

In hypothyroid females presenting with AUB, menorrhagia is the most common abnormal pattern of bleeding followed by polymenorrhea. Hypomenorrhea, oligomenorrhea and amenorrhea were less common. Therefore in patients of AUB under evaluation, thyroid function should be evaluated and treated simultaneously.

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