International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

Correlation between Thyroid Disorder and Pattern of Menstrual Bleeding in Women with Abnormal Uterine Bleeding

Dr Pratibha Yadav, Dr Amita Yadav, Dr Manju Varma, Dr Meena Dayal

Abstract: ***Objective- To study the correlation between thyroid disorder and pattern of menstrual bleeding in women with abnormal uterine bleeding. Methods- The present study was conducted on 50 women with complaint of abnormal uterine bleeding and thyroid disorder. After detailed history and examination, Pap'smear was taken. Routine blood investigations, thyroid profile (TSH, FT3, FT4,) was done by Chemiluminescent Microparticle Immunoassay (CMIA) technology. Transvaginal ultrasound was done to visualize the uterus and adnexal region. Result- among 50 women, 40 (80%) were hypothyroid, 10 (20%) patients were hyperthyroid. Among hypothyroid, maximum cases 12 (30%) had heavy menstrual bleeding, followed by frequent cycle in 10 (25%) cases. Among hyperthyroidism, maximum cases 4 (40%) had scanty menstrual cycle . Conclusions: HMB 12 (24%) was found to be the commonest presenting abnormal uterine bleeding pattern followed by frequent menstrual cycle 10 (20%). Among thyroid disorders, prevalence of hypothyroidism was more than hyperthyroidism. Commonest bleeding pattern in hypothyroidism was HMB and in hyperthyroidism was scanty menstrual cycle.***

Keywords: AUB, HMB, TSH

1. Introduction

In normal circumstances, a woman's uterus sheds a limited amount of blood during each menstrual cycle (30- 80 mL). Abnormal uterine bleeding (AUB) is a very broad term which can occur secondary to various aetiologies and it defined as any deviation from the normal menstrual cycle and includes changes in frequency, regularity of menses or duration and amount of blood loss. It is thus used to describe any departure from normal menstruation. Any disruption in the normal physiology or anatomic changes in the uterus results in abnormal uterine bleeding. Hypothyroidism, however even in its subclinical form usually tends to cause HMB. Abnormal uterine bleeding is a common but complicated clinical entity accounting for at least 20% of all new patient attending Gynaecology OPD. Menstrual abnormality precedes the onset of clinically overt hypothyroidism or hyperthyroidism ***Gowri M et al, (2014)***[1]. Both hypothyroidism and hyperthyroidism can result in menstrual irregularities. Hyperthyroidism reduces menstruation and hypothyroidism causes menorrhagia.

Aims and Objectives

To assess the pattern of menstrual bleeding among women with thyroid disorders

2. Material and Methods

Type of Study- Prospective observational and analytical.

Place of study- Department of Obstetrics and Gynaecology in associated hospitals of Moti Lal Nehru Medicalcollege Prayagraj (i.e. Swaroop Rani Nehru Hospital and Kamla Nehru Memorial Hospital), in collaboration with the Department of Radiodiagnosis and Department of Pathology over a period of twelve months (October 2017 to September 2018).

Inclusion criteria- Females aged 15-45 years, presenting with abnormal uterine bleeding

Exclusion criteria- Patients suffering from the following conditions -

- Diagnosed case of ovarian cyst, uterine fibroid, polyp, adenomyosis,
- Endometriosis and malignant (endometrial and cervical) tumors.
- Patients with goitre, carcinoma thyroid.
- Patients who were on drugs (sex steroids, or hormones, anticoagulant, antiplatelets etc.) IUCD users.
- History of bleeding disorders (haemophilia, von Willebrand's disease) were excluded.
- Pelvic infections including endometritis, PID.
- PCOD.

Sample size-50.

Study protocol included- detail history, examination and investigations.

Routine Blood investigation: complete blood picture, haemoglobin, blood group and Rh typing, HIV I & II, VDRL, HbsAg, random blood sugar, bleeding and clotting time, coagulation profile, liver function tests, renal function tests.
Urine routine & microscopy were done

Special investigation

Sample
5 ml of venous blood was collected in fasting status in early morning, under all aseptic precautions. Serum was separated and stored in refrigerator at 2-8°C.

Thyroid Stimulating Hormone, FT_3, and FT_4 were measured by TSH 7K62 Kit. The ARCHITECT TSH assay, is a two step immunoassay to determine the presence of TSH, FT_3 and FT_4 in human serum and plasma using

chemiluminescent microparticle immunoassay (CMIA) technology with flexible assay protocols referred to as Chemiflex.

The data was collected and statistically analysed.

- Transvaginal Ultrasonography was performed with SIEMENS SONOLINE G50 machine using frequency 4.2-9 MHz vaginal prob.
- Cytological examination by using Pap'smear method.

Statistical analysis- Chi square test. P value ≤ 0.05 was taken as critical level of significance.

3. Result

Table -I
Out of 50 cases, maximum 40 (80%) cases were hypothyroid and only 10 (20%) cases were hyperthyroid.

Out of 50 cases, maximum 26 (52%) cases belonged to 36-45 year and minimum number of cases 6 (12%) belonged to 15-25 year age.

Mean age was- 35.21± 7.8 years.

In hypothyroid, maximum 23 (46%) cases belonged to 36-45 year age and in hyperthyroid, maximum 5 (50%) cases belonged to 26-35 year age.

Table- II Out of 50 cases, maximum 15 (30%) cases were para 3, 13 (26%) cases were para 2, 8 (16%) cases were para 4, 6 (12%) cases were primiparous, 3 (6%) were ≥ para 5, 3 (6 %) cases were nullipara and 2 (4%) cases were unmarried.

Mean parity was -2.63

Table- III In this study most common presenting symptoms was HMB, present in 12 (24 %) cases, followed by frequent cycle in 10 (20%) cases, 7 (14%) cases had infrequent cycle, 6 (12%) cases had prolonged menstrual bleeding, 5 (10%) cases had HMB + frequent cycle, 4 (8%) cases had irregular cycle, 4 (8%) cases had scanty menstrual cycle and 2 (4%) cases had shortened menstrual bleeding.

Table-IV Shows the relationship between thyroid profile and pattern of bleeding in AUB cases. Out of 40 (80%) cases with hypothyroidism 12 (30%) cases had heavy menstrual bleeding, 10 (25%) cases had frequent cycle, 6 (15%) cases had prolonged menstrual bleeding, 5 (12.5%) cases had HMB+frequent cycle, 4 (10%) cases had infrequent cycle, and 3 (7.5%) cases had irregular cycle.

Out of 10 (20%) cases with hyperthyroidism, 4 (40%) cases had scanty menstrual cycle, 3 (10%) cases had infrequent cycle, 2 (20%) cases had shortened menstrual bleeding and 1 (10%) case had irregular cycle.

4. Discussion

Until recently, abnormal uterine bleeding was the principal reason for exploring uterine cavity in order to ascertain the pathology. The only method available in such cases was dilatation and curettage. It did not permit detection of focal lesions and systemic condition. Therefore, systemic evaluation of patient either by biochemical or hormonal assay as indicated in a particular case and USG for visualising the pelvic organs, is recommended.

In the present study, out of 50 cases, maximum cases i.e 26 (52%) belonged to the age group between 36-45 years .The finding of present study corresponds to studies of **Sharma N et al (2012)**[2]with maximum no (54 %) and, **Padamleela K et al (2013)**[3]with maximum no (53%) in 36-45 years age. In the study by **Subedi S et al (2016)**[4] maximum cases (53%) belonged to the age group 31-40 years.

In present study maximum cases 40 (80%) cases were hypothyroid and only 10 (20%) cases were hyperthyroid. Present study corresponds to the studies by **Singh P et al (2017)**[5] with (26%) cases of hypoyhyroid and (9%) cases of hyperthyroid**, Komathi R et al (2016)**[6] with (27%) cases of hypothyroid and (3%) cases of hyperthyroid, **Rani AS et al (2016)**[7] (19%) cases of hypothyroid, and (2%) cases of hyperthyroid.

Among 40 (80%) cases of hypothyroidism, maximum 23 (46%) cases were in 36-45 years age, and among 10 (20%) cases with hyperthyroidism, maximum 5 (50%) cases were in 26-35 years age . there was no significant association between thyroid profile and age in AUB). (**p** value- 0.424)

In the studies of **Komathi R et al (2016)**[6]**, N Usharani et al (2017)**[8] and **Sharma P et al (2018)**[9]most common age group for hypothyroidism were 30-45 yr (48.6%), 31- 40 year (41%) and 31-40 year (50%) respectively and most common age group for hyperthyroidism were 31-40 yr (66.7%), 41-50 yr (100%), 31-40 yr (66%) respectively In the above study the age prevalance of thyroid disorder is almost similar to present study, except in the study of **N Usharani et al (2017)**[8] in which all cases of hyperthyroidism were found in 41—50 year age.

In the present study, out of 50 cases maximum 15 (30%) were para 3 followed by para 2 in 13 (26%) cases. This study corresponds to studies by **Rani A S et al (2016)**[7], **N Usharani et al (2017)**[8], **and Singh P et al (2018)**[5] with maximum cases of para 3 as 37 (37%), 36 (36%) and 144 (36%) case respectively.

In present study, most common presenting complaint was HMB seen in 12 (24%) cases followed by frequent cycle in 10 (20%). Present study correlates with studies of**, , Ali Javed et al (2015)**[10], **Rani AS et al (2016)**[7], and **Singh P et al (2018)**[5]with maximum cases of menorrhagia seen in (42%), (38%) and (34%) cases respectively.

Out of 40 (80%) cases with hypothyroidism, maximum 12 (30%) cases had heavy menstrual bleeding as presenting complain and out of 10 (20%) cases with hyperthyroidism, maximum 4 (40%) cases had scanty menstrual cycle as presenting complain. There is significant association between thyroid disorders and pattern of bleeding in AUB (**p** value- 0.0001).

Present study corresponds to the studies of **Sharma P et al**

(2018)[10] with maximum 27 (32.5%) cases of hypothyroidism with menorrhagia and maximum 5 (66%) cases of hyperthyroidism with oligomenorrhoea and **Jinger SK et al (2017)[11]** with maximum 23 (58.9%) cases of hypothyroidism with menorrhagia and maximum 6 (75%) cases of hyperthyroidism with oligomenorrhoea.

5. Conclusion

Among thyroid disorders, prevalence of hypothyroidism, 40 (80%) was more than hyperthyroidism 10 (20%) in AUB cases. HMB 12 (24%) was found to be the commonest presenting abnormal uterine bleeding pattern followed by frequent menstrual cycle 10 (20%). Maximum cases 12 (30%) of hypothyroids had HMB and of hyperthyroids 4 (40%) had light/scanty menstrual bleeding as presenting complaint, making HMB and scanty menstrual cycle to be the commonest bleeding pattern in hypothyroidism and hyperthyroidism respectively.

It can be concluded that thyroid dysfunction is associated with menstrual disturbances (abnormal uterine bleeding) and can be relieved with the correction of thyroid dysfunction, therefore it is suggested that thyroid function tests should be performed in all patients with menstrual irregularities (AUB) to avoid unnecessary interventions like hormone replacement and surgery.