International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Marimuthu K et al. Int J Reprod Contracept Obstet Gynecol. 2017 Jun;6(6):2222-2225
www.ijrcog.org

pISSN 2320-1770 | eISSN 2320-1789

DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20172027

Original Research Article

Influence of thyroid gland in women with abnormal uterine bleeding in reproductive age group

Kavitha Marimuthu*, Malarvizhi Loganathan

Department of Obstetrics and Gynecology, Government Dharmapuri Medical College Hospital, Dharmapuri, Tamil Nadu, India

Received: 18 April 2017
Accepted: 25 April 2017

***Correspondence:**
Dr. Kavitha Marimuthu,
E-mail: draksn@gmail.com

ABSTRACT

Background: Abnormal Uterine Bleeding is a common complaint encountered in Gynaecology OPD. It occurs in 9-14% of women from Menarche to Menopause affecting quality of life imposing financial burden. Thyroid dysfunction causes broad spectrum of reproductive disorders from abnormal sexual development, menstrual irregularities, infertility and premature menopause. Thyroid disorders are 10 times more common in women and increased prevalence of thyroid disorders in women is possibly due to auto immune nature.
Methods: This Prospective study population consisted of 250 women attending the Gynaecology Outpatient Clinic, in Government Dharmapuri Medical College Hospital, with complaints of bleeding problems during menstruation in the age group of 18 to 45 years.
Results: Of 250 cases of abnormal uterine bleeding in reproductive age group attending the outpatient department about 68 cases have thyroid dysfunction. The common thyroid dysfunction in our study was hypothyroidism which comprises about 15.6% similarly other thyroid dysfunction are hyperthyroidism in 7.2% and subclinical hypothyroidism in 3.2% and subclinical hyperthyroidism 1.2%.
Conclusions: It brings into focus the increased incidence of hypothyroidism among women with menorrhagia and amenorrhea. And increased incidence of hyperthyroidism in women with oligomenorrhea. Early detection by selective screening and specific pharmacotherapy for subclinical thyroid disease early in the course of the disease will prove to be a superior alternative to surgical treatments like hysterectomy.

Keywords: Abnormal uterine bleeding, Free T3, Free T4, Hypothyroidism, Thyrotoxicosis, TSH

INTRODUCTION

Abnormal uterine bleeding is a common complaint encountered in Gynaecology OPD. It occurs in 9-14% of women from Menarche to Menopause affecting quality of life imposing financial burden.[1] Thyroid dysfunction causes broad spectrum of reproductive disorders from abnormal sexual development, menstrual irregularities, infertility and premature menopause.[2]

Thyroid disorders are 10 times more common in women and increase prevalence of thyroid disorders in women is possibly due to auto immune nature.[3]

Hyperthyroidism is associated with menorrhagia followed by oligomenorrhoea and scanty flow proportionate to the severity of thyrotoxicosis. Hence, present study was undertaken to evaluate the thyroid function in patients having abnormal uterine bleeding.

Abnormal Uterine Bleeding is a frequent debilitating symptom resulting in unnecessary incorrect and expensive treatment and in variably ends up in a surgery with attendant risk of morbidity and mortality. Diseases of thyroid gland are among the most prevalent disorders worldwide second only to diabetes.[4] This study is to evaluate thyroid dysfunction in patients with abnormal

uterine bleeding in reproductive age group from 18 to 45 years which will help in further management and also to know the prevalence of hypothyroidism in abnormal uterine bleeding.

METHODS

This prospective study conducted in tertiary care hospital from August 2015 to January 2016 at Government Dharmapuri Medical College, Dharmapuri. This study comprises study subject of 250 women attending the Gynaecology outpatient clinic with complaints of abnormal bleeding pattern during menstruation in the age group of 18 to 45 years.

Inclusion criteria

- Age group 18 to 45 years
- With menstrual disturbances
- No demonstrable pelvic pathology
- Not an IUCD user
- Not on thyroxine replacement therapy
- With or without symptoms suggestive of hypo or hyperthyroidism

Exclusion criteria

- Women not in age group 18-45 years
- Presence of palpable pelvic pathology
- With overt hypothyroidism on thyroxine
- Known thyroid disorders
- On drugs like aspirin, heparin, anti-thyroid agents, steroids, amiodarone and lithium

After proper selection of patients a detailed menstrual history elicited and other details as per proforma enclosed.A thorough history as to the presence of symptoms of hypothyroidism or hyperthyroidism was taken. Evaluation of general condition of patient (height, weight, BMI, anaemia, goitre, galactorrhoea). The cardiovascular, respiratory and nervous systems were evaluated Gentle abdominal, speculum and internal examination done 5 ml of venous blood was taken in a plain glass tubes without any anticoagulant: morning sample in a fasting state taken and serum was separated to estimate free T3, T4 and TSH.

RESULTS

Of 250 cases of abnormal uterine bleeding in reproductive age group attending the outpatient department about 68 cases have thyroid dysfunction. The common thyroid dysfunction in our study was hypothyroidism which comprises about 15.6% similarly other thyroid dysfunction are hyperthyroidism in 7.2% and subclinical hypothyroidism in 3.2% and subclinical hyperthyroidism 1.2% (Table 1).

Table 1: Prevalence of thyroid dysfunction.

Thyroid dysfunction	Percentage
Hypothyroidism	15.6
Hyperthyroidism	7.2
Subclinical hypothyroidism	3.2
Subclinical hyperthyroidism	1.2

The mean age of women in the study group was 36 years. There was significant correlation between increasing age and thyroid dysfunction. Majority of women were P2L2. Nulliparous women presented earlier with infertility as their primary complaint. There was also significance between duration of symptoms and presence of thyroid abnormalities.

Table 2: Pattern of menstrual disturbance in thyroid dysfunction.

Pattern of mensturation	Hypothyroidism	Subclinical hypothyrodism	Hyperthyroidism	Subclinical hyperthyrodism
Menorrhagia	10.4%	2.5%	1%	Nil
Amenorrhoea	3.3%	0.5%	Nil	Nil
Polymenorrhagia	0.1%	Nil	Nil	Nil
Metrorrhagia	Nil	Nil	1.2%	Nil
Hypomenorrhea	Nil	Nil	Nil	Nil
Oligomenorrhea	1%	0.2%	5%	1.2%
Total	15.6%	3.2%	7.2%	1.2%

BMI was significantly increased more so in patients with hypothyroidism and menorrhagia. In oligomenorrhic women, thyrotoxicosis was more common with incidence of 5% and menorrhagia was observed in 10.4% of hypothyroid women. Frequency of polymenorhea in the study group was relatively low due to the increased of pelvic pathology associated with polymenorrhea.

DISCUSSION

The goal of evaluation of AUB is to arrive at an accurate and clinically useful diagnosis in a most efficient and cost effective manner possible. Current study highlights the association between AUB and thyroid dysfunction by measurement of free T3, free T4, and TSH. In present

study, the mean age of women with thyroid dysfunction was 36 years. Petta CA et al in their cross-sectional study carried out in 148 women with menstrual dysfunction found a mean age of 34.6 years.[5]

Vanderpump MP et al in their 20 years follow up of whickam survey had a mean age of 34 years for occurrence of thyroid disorders. They also stated, development of hypothyroidism increases with age but no age relation for hyperthyroidism.[6] Sampath S et al done their study on clinicobiochemical spectrum of hypothyroidism found a mean age of 36.2 years among 944 women referred for thyroid testing. In this study, they found that the mean age of females with subclinical hypothyroidism is 5.4 years less than hose with overt hypothyroidism.[7]

In present study, we found an association in the occurrence of menorrhagia (61.6%) in hypothyroid women. In a retrospective analysis by Andrew D Weeks among 50 patients with myxoedema, 28 (56%) had menstrual disturbances and the most common complaint was menorrhagia (36%).[8] Singh P et al in their analysis of menstrual dysfunction among hypothyroid women stated, menorrhagia was seen in 32.4% of hypothyroid women. Hence, they suggested screening of these women with menstrual dysfunction is of great significance.[9]

In current study, complaints of almost all symptoms related with hypo/hyperthyroidism were statistically more frequent among women with thyroid dysfunction. The symptoms of thyroid dysfunction were more predictive of the disease. This has been previously demonstrated in other studies. Sampath S et al in their analysis on clinical presentation of hypothyroid cases found weight gain as the commonest symptom (53.8%) followed by generalized weakness (36%). The most specific and discriminating feature of hypothyroidism are decreased sweating, hoarseness of voice, paresthesias, cold intolerance. However, in this study, we found symptom of weight gain was more common.

Our findings for the prevalence of subclinical hypothyroidism is within the expected range for the female population of reproductive age. Prevalence studies have reported incidences between 3-8%. The prevalence of subclinical hypothyroidism in present study doesn't correlate with the 14.6% prevalence in study by Bemben DA (predictability of subclinical hypothyroidism in women).

Because, in this study the sample population were in the age group 60-97 years. In community surveys 8-17% of people older than 55 years may have subclinical hypothyroidism Hollowell JG et al observed 4.3% prevalence of subclinical hypothyroidism in their study. it was observed in our study that 3.2% of women with AUB had subclinical hypothyroidism.[10] This should be considered the major benefit of testing because progression rate to overt hypothyroidism is approximately 4% to 18%. There are enough data to support the fact that thyroxine replacement in women with subclinical hypothyroidism checks progression.

The National Academy of Clinical Biochemistry guidelines states that greater than 95% of healthy, euthyroid subjects have a serum TSH concentrations between 0.4-2.5 mIU/L. The latest thyroid disease guidelines recommend a reference TSH range of 0.3-3.0 mIU/L. There is good evidence that treatment of patients who have TSH levels >4.5 mIU/L prevents progression to overt hypothyroidism. Failed medical therapy of DUB may be due to underestimate of underlying thyroid disorder.

CONCLUSION

There is significant association between thyroid disorders and abnormal uterine bleeding. It brings into focus the increased incidence of hypothyroidism among women with menorrhagia and amenorrhea and increased incidence of hyperthyroidism in women with oligomenorrhea.

The prevalence of subclinical hypothyroidism in the study group was 3.2%. It proves beyond doubt that this selective testing of thyroid functioning women with AUB detects who are at risk of progression to overt hypothyroidism i.e. women with subclinical hypothyroidism. Early detection by selective screening and specific pharmacotherapy for subclinical thyroid disease early in the course of the disease will prove to be a superior alternative to surgical treatments like hysterectomy.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Fraser IS, Langham S, Uhl-Hochgraeber K. Health-related quality of life and economic burden of abnormal uterine bleeding. Expert Rev Obstet Gynaecol. 2009;4(2):179-89.
2. Thomas R, Reid RL. Thyroid diseases and reproductive dysfunction. Obstet Gynaecol 1987;70:789-98.
3. Mazzaferri EL. Evaluation and management of common thyroid disorders in women. Am J Obstet Gynaecol. 1997;176(3):144-9.
4. Sruthi M, Amruthlal W, Reddy GC, Kusumanjali G, Kanagasabapathy AS, Pragna R. diagnostic strategies for subclinical hypothyroidism. Indian J Clini Biochem. 2008;23(3):279-82.
5. Petta CA. Thyroid screening in menstrual abnormalities. N Eng J Med. 2007;76:463-70.
6. Vanderpump MP, Tunbrldge WM, French J, Appleton D, Bates D, Clark F et al. The incidence of

thyroid disorders in the community: a twenty five year follow up of whickam survey. Clin Endocrinol (Oxf). 1995;43(1):55-68.
7. Sampath S, Singh P, Somani BL, Arora MM, Batra HS, Harith AK et al. Study of clinicobiochemical spectrum of hypothyroidism. MJAFI. 2007;63(3):233-6.
8. Weeks AD. Correlating menstrual irregularities with levels of thyroid hormone deficiency. BMJ 2000;320(7235):649.
9. Singh P. Pattern of bleeding in hypothyroidism. MJAFI. 2007;53:112-23.
10. Hollowell JG, Staehling NW, Flanders WD, Hannon WH, Gunter EW, Spencer CA. Serum T4 and TSH in the united states population (1988-1994): national health and nutrition examination survey (NHANES III). J Clin Endocrinol Metab. 2002;87(2):489-99.

Cite this article as: Marimuthu K, Loganathan M. Influence of thyroid gland in women with abnormal uterine bleeding in reproductive age group. Int J Reprod Contracept Obstet Gynecol 2017;6:2222-5.