Original Article National Journal of Medical and Dental Research, October-December 2015: Volume-4, Issue-1, Page 06-10

Study Of Thyroid Function In Dysfunctional Uterine Bleeding

Malini Bhardwaj[A], Sumit Bhargava[B]

[A] - *Associate Professor, Department of Obstetrics & Gynaecology, R.K.D.F. Medical College, Bhopal, M.P.*

[B] - *Associate Professor, Department of Anaesthesiology, L.N. Medical College, Kolar Road, Bhopal, M.P*

Obstetrics and Gynecology

Corresponding Address

Dr. Malini Bhardwaj
Associate Professor,
Department of Obstetrics & Gynaecology,
R.K.D.F. Medical College, Bhopal, M.P

Abstract:

Introduction: Dysfunctional uterine bleeding is abnormal uterine bleeding in the absence of any palpable pelvic pathology and demonstrable extra genital causes [1]. DUB is responsible for 10% of gynaecological complaints. Thyroid hormone is very important to affect the menstrual pattern.

Aims And Objectives; To estimate the prevalence of thyroid dysfunctions in women with DUB from puberty to menopause; To evaluate thyroid function test in women with DUB; To assess the menstrual pattern in women with thyroid dysfunction.

Methodology: Prospective observational study for a period of one year from july 2014 to july 2015. Its a hospital based study done in dept of obstetrics and gynaecology, PCMS & RC and RKDF medical college Bhopal. Predesigned & prestructured proforma was filled. Routine blood investigations,serum free T4, TSH, USG was done.Patients with TSH <0.05 were considered hyperthyroid and patients with TSH> 5.5 were considered hypothyroid.

Results: Prevalence of thyroid disorders was found to be 21.6% in our study. most of the patients with DUB were in the age group of <20 years ie. 44.44% followed by 40% in age group of 41-50,it means in early age thyroid is common cause of DUB. Menorrhagia was the most common type of presentation in DUB (62%) followed by polymenorrhoea. Among patients of menorrhagia 74.19% were euthyroid and 18.06% were having subclinical hypothyroidism. Hypomenorrhoea was the commonest presentation in cases of hyperthyroid ie 100% among all cases of DUB majority of the patients were having subclinical hypothyroidism (12%).

Conclusion: Prevalence of hypothyroidism is more than hyperthyroidism in DUB. Common menstrual pattern among cases of DUB is menorrhagia. Thyroid function test should always be done in patients with DUB. Treatment of thyroid disorders can prevent patients from unnecessary surgical interventions.

Key Words: dysfunctional uterine bleeding, thyroid dysfunction, hypothyroidism, hyperthyroidism.

Introduction:

Abnormal uterine bleeding has significant impact on quality of life and it also impose financial burden.[1] "FIGO PALM COEIN" classification for causes of AUB includes both structural and non structural causes. Structural causes are polyp,adenomyosis,fibroids, malignancies,and hyperplasia and non structural causes includes coagulopathy,endometrial causes,iatrogenic and non classified causes. 20% women in gynaecology present with abnormal uterine bleeding.[2] Dysfunctional uterine bleeding is the diagnosis of exclusion.

Dysfunctional uterine bleeding is abnormal uterine bleeding in the absence of any palpable pelvic pathology and demonstrable extra genital causes.[3] DUB accounts for 10% of all the gynaecological problems.It is well recognized that thyroid dysfunction has profound effects on female reproductive system in terms of delayed puberty, DUB, infertility, recurrent pregnancy loss, premature menopause.[4] Thyroid disorders are 10 times more common in females than males.[5] This high prevalence in female is possibly due to autoimmune nature of thyroid disorders. The underlying cause of DUB is uncertain but most common associated basic pathology is ovarian dysfunction and consequent hormonal imbalance. Ovarian dysfunction may be primary (pathological lesion of ovary) or secondary to endocrine dysfunction eg. hypothalamus, pituitary & thyroid. Singh et al found 63% of hypothyroid patients had anovulatory cycles.[6] Recently "occult menorrhagia" has been found to be an early manifestation of subclinical hypothyroidism with disease becoming symptomatic later. Various studies done earlier show that menorrhagia being the chief symptom in hypothyroidism. Majority of cases of subclinical hypothyroidism pass unrecognised because these patients are usually asymptomatic. Prevalence of subclinical hypothyroidism is so high that it should be given enough consideration justifying the screening of women with menstrual irregularities even if they don't have any symptom or sign related to thyroid disorder. Menon has demonstrated the treatment of DUB with thyroxin.[7] Doifodi and Fernando have also done research to show that unnecessary hormonal treatment and surgeries can be avoided with correction of thyroid disorders.[8] Serum TSH assay is a sensitive indicator of hypothyroidism because TSH levels elevates before circulating thyroxin level fall below normal range.

The objectives of the study were to estimate the prevalence of thyroid dysfunction in women with DUB from puberty to menopause; to evaluate thyroid function test in women with DUB; and to assess the menstrual pattern in women with thyroid disorders.

Material and Method:

Prospective observational study was done in the department of obstetrics and gynaecology, PCMS & RC Bhopal and RKDF Medical college and research centre, Bhopal from July 2014 to July 2015. In all the patients attending gynaecology OPD with DUB from puberty to menopause, 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 free T4, TSH, USG were advised. Patients with acute bleeding or with severe anaemia were admitted for further management. Patients on drugs and hormone therapy, IUCD users, women with carcinoma thyroid, bleeding disorders and with organic pelvic lesions were excluded from the study.

Patients with TSH >5.5 were considered hypothyroid and patients with TSH<0.5 were considered hyperthyroidism. Patients were grouped in 4 categories: 1) Euthyroid-Normal TSH and free T4; 2) Subclinical hypothyroidism-Raised TSH and low normal free T4; 3: Overt hypothyroidism-Raised TSH and low free T4; 4) Hyperthyroidism-low TSH and Raised free T4.

Statistical analysis:

Statistical analysis was done using "chi square test". Chi-square test is a statistical method assessing the goodness of fit between a set of observed values and those expected theoretically. We applied the test in table 4 by merging oligomeno., hypo., MPH., metro. together into a single column. "P value" of 0.05 was considered statistical significance. After various calculations, the chi –square statistic is 39.85. The "P value is <0.00001. The result is therefore significant.

Results:

Total cases of DUB were 250, out of these 54 cases were having thyroid disorders ie 21.6%.

Table 1: Age Distribution of DUB

Age in years	No of cases	Cases of thyroid	% of thyroid
<20 YRS	09	04	44.44%
21-30	88	14	15.9%
31-40	109	21	19.26%
41-50	30	12	40%
>50	14	03	21.4%

Percentage of thyroid disorders was more in <20 years of age group ie 44.44% followed by 41-50 years of age group ie 40%.

TABLE 2:
Distribution of Thyroid Disorders Among DUB Cases

Thyroid disorders	No. of cases	Percent
EUTHYROID	196	78.4%
SUBCLINICAL	30	12%
OVERT	11	4.4%
HYPERTHYROID	13	5.2%
According to this table most of the patients ie 12% were having subclinical hypothyroidism.		

Table 3:
Pattern of Bleeding Among DUB Cases

Pattern of bleeding	No of cases	Percentage
MENORRHAGIA	155	62%
POLYMENORROEA	53	21.2%
OLIGOMENORROEA	18	7.2%
HYPOMENORROEA	12	4.8%
METRORRHAGIA	06	2.4%
MPH	06	2.4%

Menorrhagia was the most common type of presentation in all the cases of DUB ie 62% followed by polymenorroea 21.2%.

Table 4:
Distribution of Thyroid Among Different Patterns of DUB

THYROID DS	MENORRHGIA (155)	POLYMENORROEA (53)	OLIGOMENO. (18)	HYPO. (12)	MPH(6)	METRO. (6)
EUTHYROID	115(74.19%)	50(94.3%)	12(66.67%)	07(58.3%)	06(100%)	06(100%)
SUBCLINICAL	28(18.06%)	02(3.7%)	-	-	-	-
OVERT	08(5.16%)	01(1.88%)	02(11.11%)	-	-	-
HYPERTHY.	04(2.58%)	-	04(22.22%)	05(41.67%)	-	-

Menorrhagia was the most common presenting complaint (62%).Out of these 74.19% patients were euthyroid and most common thyroid disorder was subclinical hypothyroidism ie 18.06%followed by overt hypothyroidism (5.16%) and hyperthyroidism (2.58%).Among the cases of polymenorrhoea also subclinical hypothyroidism was more common ie.3.7%.Among the cases of oligomenorrhoea and hypomenorrhoea hyperthyroidism was more common ie.22.22% and 41.67%.

Table 5:
Percentage of Thyroid Among Different Cases Of DUB

PATTERN OF DUB	TOTAL NO OF CASES	NO OF THYROID CASES	PERCENTAGE
MENORRHAGIA	155	40	25.8%
POLYMENORRHOEA	53	3	5.66%
OLIGOMENORROEA	18	6	33.33%
HYPOMENORROEA	12	5	41.67%
MPH	06	0	0%
METRORRHAGIA	06	0	0%

Although menorrhagia is the most common presentation of DUB cases but thyroid was detected in 25.8% of cases.In cases of oligomenorroea and hypomenorroea thyroid was detected in 33.33% and 41.67% of cases.

Discussion:

Thyroid disorders especially hypothyroidism is more common in women. It is 10 times more common in females.[5] It affects the reproductive and menstrual functions of women from puberty to menopause.[4] It also affects quality of life and put a significant financial burden on society.[1] In all the cases of DUB (250cases), 21.6% (54cases) were having thyroid disorders. In all the cases of DUB subclinical hypothyroidism was the commonest ie 12% (30 cases) followed by hyperthyroidism ie 5.2% and overt hypothyroidism ie 4.4%. N Bhavani et al[9] found prevalence of 19% and K Padmaleela el al[10] found a prevalence 26.5%,Talasila Shruthi[11] found a prevalence

of 11%. Subclinical hypothyroidism was the commonest thyroid disorder found in various studies. N Bhavani et al[9] found 15.38% cases of subclinical and 2.19% cases of hyperthyroidism. K Padmaleela et al[10] found 18.15% cases of hypothyroidism and 8.4% cases of hyperthyroidism. Talasila Shruthi et al[11] found 8% cases subclinical 1% hyperthyroidism and 2% hypothyroidism. Study done by Mrinal Kunti Kundu et al[12] found prevalence of 23%, out of it 13% cases were of subclinical hypothyroidism,7% cases were of overt hypothyroidism, 3% cases were of hyperthyroidism. In this study thyroid disorders were more common in <20 years of age group (44.44%) followed by 41-50 years age group ie.40%. Study done by K Padmaleela et al[10] found 53% patients in age group 35-45 years.

Menorrhagia was the most common menstrual problem women presented with in gynaecology OPD ie 62%, followed by polymenorroea (21%) and oligomenorroea (7.2%). K Padmaseela et al[10] found 50% cases of menorrhagia,T Kaur et al[13] found 64.3% cases of menorrhagia. Mrinal Kunti Kundu et al[12] noted the commonest bleeding pattern menorrhagia and polymenorroea.

Among all the cases of menorrahgia 74.19% cases were euthyroid, 18.6 % were having subclinical hypothyroidism (commonest thyroid disorder), 5.16% were having overt hypothyroidism, 2.58% were having hyperthyroidism. In study of T Kaur et al[13] 64.3% patients of menorrhgia were hypothyroid. T Kaur et al noted that patients with TSH <13.5 had either menorrhagia or metrorrhagia but as TSH rises above 20 oligomenorrhoea was the chief complaint. Among the cases of polymenorrhoea 3.7% cases were having subclinical hypothyroidism and 1.88% cases were having overt hypothyroidism, rest were euthyroid. Among the cases of oligomenorroea and hypomenorroea 22.22% and 41.67% cases were hyperthyroid means cases of hyperthyroidism mostly presents with oligomenorroea and hypomenorroea.

In all cases of menorrhagia (155) thyroid disorders were found in 25.8% of cases in the form of subclinical hypothyroidism (70%), overt hypothyroidism (20%), or hyperthyroidism (10%). In cases of polymenorroea also subclinical hypothyroidism was more common ie 66.66%. In cases of oligomenorrhoea hyperthyroidism was more common disorder ie 66.665 followed by overt hypothyroidism ie 33.33%. Study done by Mrinal Kanti kundu et al[12] found all the cases of hyperthyroidism with oligomenorroea .In our study all the cases of hypomenorroea ie 100% were hyperthyroid.

Conclusion:

Prevalence of hypothyroidism is more than hyperthyroidism in menstrual disorders. Common menstrual problem associated with thyroid dysfunction is menorrhagia. Proportion of thyroid disorders, especially subclinical hypothyroidism is significant in cases of menorrhagia. Hyperthyroidism is more frequent in oligomenorroea and hypomenorroea cases. Looking at the results thyroid screening should be made mandatory in cases of DUB even in asymptomatic cases of thyroid. Significant number of surgeries, unnecessary hormonal treatment, associated morbidities and mortalities can be avoided only by correcting the thyroid disorder.

References:-

1. Fraser IS, Langham S, Hoschgraebes K.Health related quality of life and economic burden of abnormal uterine bleeding, Expert review obstet gynaecol 2009;4(2);179-189.

2. Nesse R,Abnormal vaginal bleeding in premenopausal women. Am family physian 1984;40;185.

3. Davey DA,Dewhurst.Text book of obstetrics and gynaecology for post graduates. DUB, Chapter 40,5th edn,1990 pp.590-600.

4. Thomas R,Reid R L. Thyroid disease &reproductive dysfunctions, Obstet Gynaecol 1987;70;789-98.

5. Berek JS,Adarshi EY and Hillard PA. In endocrine disorders. Novaks Gynaecology 12th edn.Williums &Wilkins,Gopson paper ltd Noida 2001;pp.864.

6. Singh L, Agrawal CS,Choudhary SR et al.Thyroid profile in infertile women. J Obstet Gynae India 1990;40;248-53.

7. Menon VK,Baruch KE. Menstrual dysfunction and thyroid disease. J Obstet Gynae India 1995;45(4);521-26.

8. Doifodo CD, Fernandes K .Study of thyroid dysfunction on patients with DUB. J Obtet Gyn India 2001;51(2);93-95.

9. N Bhavani,Avanthi Sullineedi,Aradhana Giri et al. A study of correlation between abnormal uterine bleeding and thyroid dysfunction.International journal of recent trends in science and technology. ISSN 2277-2812 E .ISSN 2249-8109 vol 14 issue 1, 2015pp131-135

10. K Padmaleela, Thomas V, Kiranmai D. Thyroid disorders in dysfunctional uterine bleeding(DUB) among reproductive age group women-A cross sectional study in a tertiary care hospital in Andhra Pradesh India IJMPS,2013;4(1);41-46.

11. Talasela Sruthi,Shilpa Shivannaa,Gopal.Prevalence of hypothyroidism in patients with provisional diagnosis of DUB. Journal of evolution of medical and dental sciences 2014; vol 3,issue 11,march 17 2967-72.

12. Mrinal Kanti Kundu,Nibedita Chattopadhyay,Sajal Kumar Mondal, Manami Roy, Manas Kumar Saha,V. Aruna Kumari, Arati Biswas. Role of Thyroid Dysfunction in patients with a provisional diagnosis of Dysfunctional Uterine Bleeding. Journal of Evolution of Medical and Dental Sciences 2014;vol.3,issue 38,August 25;page:9751-9756,DOI:10.14260/jemds/2014/3261

13. Kaur T, Aseeja V, Shaema S. Thyroid dysfunction in dysfunctional uterine bleeding. webmed central Obstetrics and Gynaecology 2011;2(9);WMC002235 doi;10.9754/ journal WMC 2011.002235.