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ORIGINAL ARTICLE

Screening of Peri- and Postmenopausal Women for Hypothyroidism

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ABSTRACT

Objectives:

1. To study the prevalence of hypothyroidism in peri- and postmenopausal women
2. To study the correlation of menopausal symptoms with hypothyroidism.

Methods: Hospital based cross-sectional study carried out at Lata Mangeshkar Hospital, 200 women relatives of indoor patients in obstetrics and gynecology ward were included in study. Subjects included in study were in peri- and postmenopausal age group between 40 to 55 years, provided they fulfilled inclusion and exclusion criteria. History was noted, menopause rating scale (MRS) score was obtained and height and weight was measured and serum TSH estimation was done. Results were noted and analyzed.

Results: Out of 200 women 25 women had raised TSH levels. Three women had overt hypothyroidism (TSH high, free T4 low), and 22 women had subclinical hypothyroidism (TSH high, free T4 normal). It was observed that out of 94 women who had MRS score, more than 8, 16 (16.6%) women had hypothyroidism and out of 106 women with lower MRS score (1 to 8), nine (8.49%) women had hypothyroidism.

Conclusions: Prevalence of hypothyroidism is high in peri- and postmenopausal age group (12.5%). Though women with high score are more likely to suffer from hypothyroidism, low score does not preclude the possibility of hypothyroidism. Screening should be done in this age group to prevent complications of hypothyroidism.

Keywords: Hypothyroidism, Peri- and postmenopausal, MRS score, TSH, Subclinical.

INTRODUCTION

Menopause is a physiological process characterized by loss of reproductive function, depletion of ovarian follicles , state of estrogen deficiency and appearance of variety of menopausal symptoms, like lethargy, hot flushes, anxiety, sexual problems, tiredness, insomnia, weight gain and mood swings.

Many of these symptoms are similar to symptoms of hypothyroidism. It has also been observed that menopausal symptoms are more intense in patients with hypothyroidism.[1] There is likelihood of symptoms of hypothyroidism in this age group being misinterpreted as menopausal symptoms and hypothyroidism remaining undetected. If hypothyroidism remains undetected and untreated, it can lead to health hazard like hyperlipidemia, atherosclerosis and heart disease.[2] Even subclinical hypothyroidism can progress to overt hypothyroidism, especially if serum TSH concentratation is >10 mIU/l.[3] Further, there is evidence that subclinical hypothyroidism can be associated with elevated total and low density lipoprotein cholesterol levels and these levels improve with treatment with L-T4.[4] That is why timely detection of hypothyroidism is very important. Presently there are no clear cut guidelines about screening menopausal patients for thyroid function. Studies on screening of menopausal women for thyroid disorders are not conclusive. This study was carried out to detect the prevalence of hypothyroidism in peri- and postmenopausal women.

AIMS AND OBJECTIVES

1. To study the prevalence of hypothyroidism in peri- and postmenopausal women
2. To study the correlation of menopausal symptoms with hypothyroidism.

MATERIALS AND METHODS

This hospital based cross-sectional study was carried out at Lata Mangeshkar Hospital, Nagpur, from 1-2-2010 to 31-7-2010. Study group comprised of women relatives or visitors of patients admitted in obstetric and gynecology ward. Women who fulfilled inclusion-exclusion criteria were explained about the study, and those who were willing to participate were included in the study after taking their written and informed consent. Inclusion criteria being women between 40 to 55 years, women with irregular cycle, women within 5 years of menopause and exclusion criteria being known case of thyroid disorder on and off the treatment. History was noted, height, weight and BP was noted and each of them was asked to fill the menopause rating scale (MRS scale). MRS scale has been designed to

measure health related quality of life of aging women. It was developed and validated from the research network of many institutes. It consists of 11 symptoms with total score ranging from 0 to 44.

Blood sample was withdrawn for TSH estimation. Women with TSH > 5.5 mIU were subjected to free T4 estimation and were referred to physician for further consultation. The result was analyzed.

OBSERVATIONS

It was observed that mean age of the study population was 49.13 ± 5.52 (Table 1) and almost equal number of women were in peri- and postmenopausal age group (Table 2). The mean BMI was 27.05 ± 3.26 (Table 3). In this study, out of 200 women screened, 22 were found to have subclinical hypothyroidism and three were found to have clinical hypothyroidism. One of the woman with overt hypothyroidism had very high value of TSH (56 mIU/l) and high MRS score (33) who corelated these symptoms with menopause. It was also observed that overt hypothyroidism was present in women with high score (Table 4). It was observed that out of 94 women who had score more than 8, 16 (16.6%) women had subclinical or clinical hypothyroidism and out of 106 women with lower score between 1 and 8, nine (8.49%) women had subclinical or clinical hypothyroidism, thus indicating that though women with high score are more likely to suffer from hypothyroidism, low score does not preclude the possibility of hypothyroidism.

Table 1 Age distribution

Age in years	*No. of women (n = 200)*
40-45	65
46-50	87
51-55	48

Mean age: 49.13 ± 5.52

Table 2 Peri/postmenopausal status

Perimenopausal	*Postmenopausal*
108	92

Table 3 Distribution of BMI in the study population

BMI	*No. of women*
18-24.99	96
25-29.99	86
> 30	18
Mean ± SD	27.05 ± 3.26

Table 4 Total MRS score and thyroid status

Mrs score	*Euthyroid (n =175)*	*Subclinical hypothyroidism (n = 22)*	*Hypothyroidism (n =3)*	*Total No. of women (n=200)*
0-4	49	5	0	54
5-8	48	3	1	52
9-16	61	8	1	70
>16	17	6	1	24

DISCUSSION

Hypothyroidisms is common especially in older women.[5] There is increasing evidence that subclinical hypothyroidism may have serious consequences in postmenopausal women. Roterdam study found that subclinical hypothyroidism is an independent risk factor for atherosclerosis and myocardial infarction in postmenopausal women.[6]

But US preventive services task force concludes that the evidence is insufficient to recommend for or against routine screening for thyroid disease in adults.[7] The American Thyroid Association recommends thyroid function in all adults beginning at age of 35 years and every 5 years thereafter, noting that more frequent screening may be appropriate in high-risk or symptomatic individual. The Canadian Task Force for periodic health examination recommends maintaining a high index of suspicion for nonspecific symptoms consistent with hypothyroidism when examining perimenopausal and postmenopausal women. American College of Physicians recommends screening women older than age 50 with one or more general symptoms that could be caused by thyroid disease The American Academy of Family Physicians recommends against routine thyroid screening in asymptomatic patients younger than age 60.

In present study, screening could detect 12.50% case of hypothyroism, 1.5% being overt hypothyroidism and 11% cases of subclinical hypothyroidism, out of 22 cases of hypothyroidism, 11 women had TSH level more than 10 mIU/ml. According to Mark P, the prevalence of spontaneous hypothyroidism is between 1 and 2% and is more common in older women and 10 times more common in women than in men. A significant proportion of subjects have asymptomatic chronic autoimmune thyroiditis and 8% of women (10% of women over 55 years of age) and 3% of men have subclinical hypothyroidism.[8]

In this study also detection rate was was high on screening (12.5%). And though there were higher chances of detecting hypothyroidism in women with high score, even low score was associated with hypothyroidism.

CONCLUSION

Thus, it is concluded that women in postmenopausal and perimenopausal age group should be aggressively investigated for hypothyroidism irrespective of presence of high or low score on menopause rating scale as this will avoid serious consequences of hypothyroidism in postmenopausal women.

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Erratum

Due to some miscommunication from one of the authors, we wrongly published the article “Partial Invasive Molar Pregnancy: Two Case Reports” authored by “Debasmita Mandal, Nupur Nandi, Ram Prasad Dey, Ranu Roy Biswas, Amiya K Bhattacharya, Subash C Biswas” on page number 218 in Sept-Dec 2010, Vol. 2, No. 3.