

SUBCLINICAL HYPOTHYROIDISM IN PATIENTS WITH NON SPECIFIC SYMPTOMS

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ABSTRACT

Objectives: This study was conducted to find the frequency of sub clinical hypothyroidism in patients who presented with nonspecific symptoms.

Material and Methods: This was a cross sectional observational study conducted on patients presenting in the outpatient department with nonspecific symptoms between January 2009 and December 2009. After evaluating patients for other medical conditions a thyroid function test was performed. A standardized questionnaire was filled with all the clinical details and results were tabulated.

Results: Of the two hundred patients who were screened for thyroid status, 24 patients had an elevated TSH with a normal T4. Of these 16 were female. The frequency was highest in the 55 to 65 years age group. The most common symptom was weakness and lethargy.

Conclusion: Subclinical hypothyroidism is a relatively common condition which is usually undiagnosed unless specifically looked for.

Keywords: Subclinical hypothyroidism.

INTRODUCTION

Subclinical hypothyroidism is defined as an elevated TSH level associated with a normal total or free T4 and T3 values. The overall prevalence has been reported to range from 4-10% in large population screening surveys¹ and from 7-26% in studies of the elderly.² There has been considerable controversy regarding the clinical significance of this condition and its management. The general consensus is that this is early thyroid failure and carries with it considerable morbidity and should be treated in selected patients.³ The clinical presentation is nonspecific. Unless looked for, it is easily missed. This study was conducted to find out how common this condition is in our setup and to find out its demographic features.

MATERIAL AND METHODS

This cross sectional observational study was conducted in 200 patients who presented to the medical outpatient department of Medical C unit at Khyber Teaching Hospital, Peshawar with nonspecific symptoms between January 2009 and December 2009. All patients above the age of fifteen of both genders were included in this study who had the following

symptoms with no obvious clinical reason: tiredness and fatigue, aches and pains, depression, muscle weakness, goiter, body swelling, constipation, dry skin, cold intolerance, hoarseness; some of these symptoms though common in hypothyroidism are not specific to the condition. The exclusion criteria was any patient with any other co-morbid condition, patients with overt or known thyroid disease or history of thyroid surgery or radiation, females who were pregnant or were taking oral contraceptive pills or hormones.

A thorough history and medical examination about the presenting symptoms and other co-morbid conditions was performed. Relevant investigations i.e. random blood glucose, blood urea and liver function tests were also performed. If found normal a random TSH and T4 level were done using Genesys system, employing Radio immuno assay method. A standard questionnaire was filled with the relevant data and results were tabulated using Microsoft excel for its simplicity.

RESULTS

A total of two hundred patients who fulfilled the inclusion criteria were screened for subclinical hypothyroidism. A total of 24 patients had an elevated TSH with a normal T4. Of these a majority of 16 (66.6%) were females and 8 (33.3%) were male. The mean age was 60 (SD ± 5), (Figure 1) The most common symptom was tiredness and fatigue (78%), (Figure 2).

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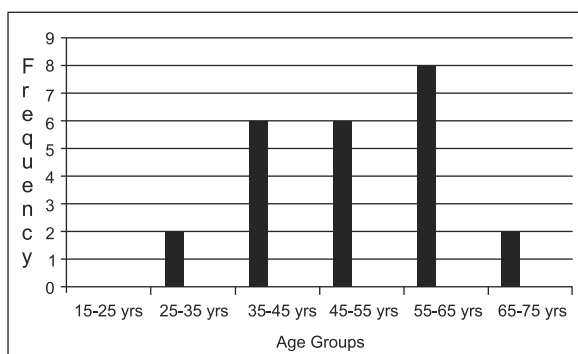


Fig. 1: Frequency according to age group

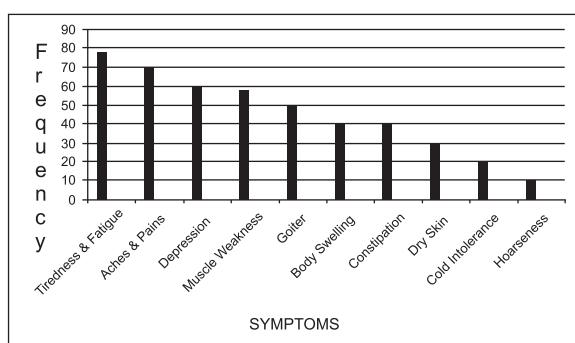


Fig. 2: Frequency of Symptoms

DISCUSSION

Anecdotal evidence suggests that classical overt hypothyroidism with patients presenting with myxedematous features is becoming a rarity. In contrast physicians frequently encounter patients with mild thyroid failure who usually are asymptomatic or have nonspecific symptoms.

Mild thyroid failure represents an early stage of thyroid disease which usually progresses to overt hypothyroidism in 3-18% of affected patients per year especially in the elderly.^{4,5} The strongest predictors of progression are the presence of antithyroid antibodies, serum TSH of more than 20uU/ml, history of radio iodine therapy or external radiation and lithium therapy.⁶ Mild thyroid failure is often asymptomatic. However, nearly 30% of patients with this condition may have symptoms that are suggestive of thyroid hormone deficiency.^{7,8,9}

The Colorado Thyroid disease Prevalence Study measured serum TSH and conducted symptoms surveys in over 25000 state residents in U.S.A. They found elevated TSH in 9.5% of the population. Out of these 2336 subjects who had mild thyroid failure reported symptoms like dry skin, poor memory, slow thinking, muscle weakness, fatigue, cold intolerance, puffy eyes, constipation and hoarseness significantly more often than the euthyroid subjects. This is quite similar to results of our study. The Colorado study² also showed a rising prevalence with age and a female

preponderance similar to our study. Considerable morbidity and other risks are associated with subclinical hypothyroidism.^{10,11,12}

The major issue is whether treating these patients is of benefit or not. The following studies have shown three major outcome benefits of identifying and treating these patients. Firstly in the prevention of developing overt hypothyroidism, the Whickham survey done in UK between 1972 and 1974 involving 2800 randomly selected adults revealed a high risk of developing overt hypothyroidism in women with both a high level of TSH and positiv antithyroid antibodies.¹

Secondly, studies have shown beneficial effects of treatment on serum lipids. A recent meta analysis of the effect of therapy for subclinical hypothyroidism demonstrated a mean reduction of 7.9mg/dl in total cholesterol and 10mg/dl in LDL cholesterol.¹⁰ Thirdly two randomized, prospective, placebo controlled trials reported significant improvement in the symptoms of subclinical hypothyroidism.^{11,12}

In women with subclinical hypothyroidism and ovulatory dysfunction, thyroxine therapy may restore fertility.¹³ Although difficulty in losing weight is often attributed to subclinical hypothyroidism, body weight is unlikely to decrease with thyroxine therapy.¹¹

CONCLUSION

Subclinical hypothyroidism is not an uncommon condition carrying considerable morbidity. It should be looked for because patients benefit from treatment.

REFERENCES

1. Tunbridge WMG, Evered DC, Hall R. The spectrum of thyroid disease in a community. The Whickham survey. *Clin Endocrinol* 1977; 7: 481-93.
2. Canaris GJ, Manowitz NR, Mayor G, Ridgway EC. The Colorado thyroid disease prevalence study. *Arch Intern Med* 2000; 160: 526-34.
3. Michael T, Mcdermott, Chester R. Subclinical Hypothyroidism is mild thyroid failure and should be treated. *J Clin Endocrinol Metab* 2001; 86: 4585-90.
4. Parle JV, Franklyn JA, Cross KW, Jones SC, Sheppard MC. Prevalence and followup of abnormal thyrotrophin (TSH) concentration in the elderly in the United Kingdom. *Clin Endocrinol* 1991; 34: 77-83.
5. Kabadi UM. Subclinical hypothyroidism. Natural course of syndrome during a prolonged follow-up study. *Arch Intern Med* 1993; 153: 957-61.
6. Huber G, Mitrache C, Guglielmetti M, Huber P, Staub JJ. Predictors of overt hypothyroidism and natural course: a long term follow up study in impending thyroid failure. 71st Annual meeting of the American Thyroid Association, Portland, Oregon 1998; Abstract 109.

7. Monzani F, Del Guerra P, Caraccio N, Pruneti CA, Pucci E, Luisi M, et al. Subclinical hypothyroidism: neurobehavioral features and beneficial effect of L thyroxine treatment. *Clin Invest* 1993; 71: 367-71.
8. Baldini IM, Vita A, Maura MC. Psychological and cognitive features in subclinical hypothyroidism. *Prog Neuropharmacol Biol Psychiatry* 1997; 21: 925-35.
9. Monzani F, Caraccio N, Siciliano G, Manca L, Murri L, ferrannini E. Clinical and biochemical features of muscle dysfunction in subclinical hypothyroidism. *J Clin Endocrinol Metab* 1997; 82: 3315-18.
10. Danese MD, Ladenson PW, Meincert CL, Powe NR. Effects of thyroxine therapy on serum lipoproteins in patients with mild thyroid failure: a quantitative review of the literature. *J Clin Endocrinol Metab* 2000; 85: 2993-01.
11. Cooper DS, Halpern R, Wood LC, Levin AA, Ridgway EC. L thyroxine therapy in subclinical hypothyroidism: a double blind, placebo controlled trial. *Ann Intern Med* 1984; 101: 18-24.
12. Nystrom E, Caidahl K, Fager G, Wikkelso C, Lundberg PA, Lindstedt G. A double blind cross over, over 12 month study of L thyroxine treatment of women with subclinical hypothyroidism. *Clin Endocrinol* 1988; 29: 63-75.
13. Lincoln SR, Ke RW, Kutteh WH. Screening for hypothyroidism in infertile women. *J Reprod Med* 1999; 44: 455-57.

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