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CLINICAL PROFILE OF HYPOTHYRODISM IN NORTH INDIAN FEMALES: A CROSS-SECTIONAL STUDY

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Abstract

Introduction: Hypothyroidism is a clinical condition that arises from a deficiency in the target tissues of thyroid hormones, resulting in a widespread slowing down of all metabolic processes. Particularly in iodine-deficient areas such as India, primary hypothyroidism is common worldwide. Hypothyroidism is a clinical condition that arises from a deficiency in the target tissues of thyroid hormones, resulting in a widespread slowing down of all metabolic processes. Primary hypothyroidism, especially in iodine deficient areas such as India, is more prevalent worldwide. Autoimmunity is the most common cause. It typically results from Hashimoto's thyroiditis and is often associated with a strong goitre or with a shrunken fibrotic thyroid with little or no activity later in the disease phase. Hypothyroidism patients have a morbid life and the quality of life is low. Understanding the clinical profile of these cases may help a physician to improve their quality of life.

Material & Methods: This was a cross-sectional study. Clinical history of patients was noted in detail and their general examination was conducted. Inclusion criteria: All cases with symptom of hypothyroidism, increased TSH with decreased T3 and T4 levels. Asymptomatic cases detected on basis of biochemical parameters. Exclusion criteria: Cases of secondary hypothyroidism, pregnant women, and cases of chronic renal failure. The data was entered in Microsoft Excel 2013 and analyzed using SPSS version 20.

Results: It was observed in present study that there were maximum 34 (68%) with odema feet. Paffiness of face was present in 26 (52%) of cases. Tiredness was observed to the most common symptom in 28 (56%) cases followed by weight gain was observed in 27 (54%) cases while menorrhagia was found in 23 (46%).

Conclusion: Odema feet and bradycardia were most common signs of hypothyroidism observed in this study followed by puffiness of face and hypertension. Tiredness was the most prevalent sign along with weight gain followed by mennorghia.

Keywords: Hypothyroidism, thyroid

Introduction

Hypothyroidism is a clinical condition that arises from a deficiency in the target tissues of thyroid hormones, resulting in a widespread slowing down of all metabolic processes. Particularly in iodine-deficient areas such as India, primary hypothyroidism is common worldwide[1].Hypothyroidism is a clinical condition that arises from a deficiency in the target tissues of thyroid hormones, resulting in a widespread slowing down of all metabolic processes. The most common condition resulting from thyroid hormone deficiency is Primary Hypothyroidism. In India, the prevalence of hypothyroidism is about 5-6 percent, particularly in iodine-deficient areas such as India, hypothyroidism is prevalent worldwide[2].It is divided into congenital and acquired, according to the time of onset, as per the extent of primary and secondary or central endocrine dysfunction and according to the degree of severe, moderate or subclinical hypothyroidism[3].

Primary hypothyroidism, especially in iodine deficient areas such as India, is more prevalent worldwide. Autoimmunity is the most common cause. It typically results from Hashimoto's thyroiditis and is often associated with a strong goitre or with a shrunken fibrotic thyroid with little or no activity later in the disease phase. The second most common cause of post-therapeutic treatment is Hypothyroidism, especially after therapy with radioactive iodine Hyperthyroidism or goitre, or surgery[4-6].Proteins are the clinical symptoms of hypothyroidism, encompassing nearly all body systems. Diagnosis with a healthy clinical history and meticulous evaluation with hypothyroidism anchors, accompanied by thyroid function examinations. Although symptom scoring scales have been identified with considerable predictive ability, they remain too insensitive and non-specific for a conclusive diagnosis[1].

In the presence of normal circulatory thyroid hormone concentrations, the earliest type of hypothyroidism referred to as subclinical hypothyroidism or mild thyroid failure is characterised by increased serum thyroid stimulating hormone (TSH) levels. It occurs in 10-15% of the general population, is more prevalent in women, and rises with age. Western studies have shown a prevalence of 4.3% to 8.5%[7-10].Indian regional and hospital-based

studies have shown a prevalence ranging from 9% to 26%. In lower socio-economic classes, the incidence is greater[11].Hypothyroidism patients have a morbid life and the quality of life is low. Understanding the clinical profile of these cases may help a physician to improve their quality of life. The creation of the intense TSH assay opened the window to discover the subclinical clinical state of hypothyroidism. Therefore, the present study was undertaken with an objective to study the features of primary hypothyroidism in females.

Material & Methods: The present study was conducted at Dept. of Medicine at Venkateshwara Institute of Medical Sciences, Gajraula, U.P. India.. This was a cross-sectional study. 50 females' cases of hypothyroidism attending from medicine OPD and IPD were selected for the present study. Demographic details of patients was recorded for age. Clinical history of patients was noted in detail and their general examination was conducted. Sahil's method was used for estimation of haemoglobin. Using fluorescent microparticle enhanced immunoassay for the estimation of serum T3, T4, SH was done where as oxidase peroxidase method was used for estimation of serum cholesterol. The data was entered in Microsoft Excel 2013 and analyzed using SPSS version 20. Number and percentage has been used to represent qualitative data.

Inclusion criteria: All cases with symptom of hypothyroidism, increased TSH with decreased T3 and T4 levels. Asymptomatic cases detected on basis of biochemical parameters.

Exclusion criteria: Cases of secondary hypothyroidism, pregnant women, and cases of chronic renal failure.

Results:

Table 1: Age distribution of cases

Age group	Total	%
upto 20 years	4	8%
20 - 40	18	36%
40 - 60	20	40%
60 - 80	7	14%
more than 80	1	2%
Total	50	100%

Among all 50 cases maximum number of case belonged to age group 40-60 years followed by 20-40 years, 60-80 years, upto 20 years and least number of cases were 80 years above.

Table 2: Signs in general examination

General examination	Number	%
Hypertension	24	48%
Paffiness of face	26	52%
Odema feet	34	68%
Bradycardia	33	66%
Tachycardia	3	6%
Dryness of skin	13	26%
Dryness of hair	4	8%

It was observed in present study that there were maximum 34 (68%) with odema feet. Paffiness of face was present in 26 (52%) of cases. There were 24 (48%) cases suffering from hypertension. Bradycardis was observed in 33 (66%) cases while in 13 (26%) cases there was skin dryness and 4 (8%) were having dry hairs. Tachycardia was present in 3 (6%) cases.

Table 3: Symptoms

Symptoms	Number	%
Weight gain	27	54%
Tiredness	28	56%
Constipation	15	30%
Menorrhagia	23	46%
Change in Voice	12	24%
Breathlessness	11	22%
Depression	8	16%
Cold intolerance	4	8%
Muscle Pain	13	26%

Tiredness was observed to the most common symptom in 28 (56%) cases followed by weight gain was observed in 27 (54%) cases while menorrhagia was found in 23 (46%). 15 (30%) cases complained of constipation. 12 (24%) cases had change in their voice. There were 8 (16%) cases suffering from depression while 11 (22%) cases suffered from breathlessness. 13 (26%) has muscle pain and 4 (8%) had cold intolerance.

Discussion:

Thyroid disorder epidemiology among the Indian population is poorly understood and this research offers valuable insights into the clinical picture with particular regard to subclinical hypothyroidism in patients with primary hypothyroidism. Subclinical relative to overt hypothyroidism can prove difficult to diagnose hypothyroidism. The natural progression of chronic illnesses in Indian population may be different from western studies. The widespread presence of iodine deficiency may contribute to an increase in the prevalence of thyroid dysfunctions. Quality of life is affected in these patients due to the significant influence of thyroid hormones on metabolic, cardiovascular and neurological function. Majority of the patients in present study belonged to age group of 40 years to 60 years. The commonest symptom observed in primary hypothyroidism in this study was tiredness followed by weight gain, menorrhagia, constipation, muscle pain. In a study done by Bitey S. Et. Al. most common symptoms in primary hypothyroidism patients was tiredness, weight gain and odema feet followed by constipation, muscle pain, change in voice, and breathlessness which are in agreement with present study[12]. Menorrhagia was found to account for 44.44% of primary hypothyroidism patients who were being worked up for infertility; was a common menstrual abnormality amongst hypothyroid females in a study by

Fauzia et al[13]. Commonest signs observed were bradycardia and Oedema feet followed by puffiness of face and hypertension, which was comparable with the study done by Singh et al and Cahier's which are in agreement with present study[14-15]. In these studies the incidence of symptoms and signs is more as compared to present study, this could be explained by the fact that patients were selected on biochemical parameters and may be diagnosed at early stage before full clinical picture is developed. Chronic autoimmune thyroid diseases can present with subclinical hypothyroidism. 23% of patients were confirmed positive for Anti-TPO. This constituted 69% of those tested. The actual prevalence of anti-thyroid antibodiesmay be higher than the results of other studies among Indians[16].

Conclusion:

Odema feet and bradycardia were most common signs of hypothyroidism observed in this study followed by puffiness of face and hypertension. Tiredness was the most prevalent sign along with weight gain followed by mennorghia.

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