



CLINICAL PROFILE OF FEMALE PATIENTS OF HYPOTHYROIDISM IN DISTRICT KATHUA OF UT OF J&K

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ABSTRACT

Background: 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. With nearly one fifth of the population affected by hypothyroidism it is important to understand the clinical presentation of the disease. The present study aims to explore various clinical signs and symptoms in female patients with hypothyroidism.

Material and Methods: This was a cross-sectional observational study, conducted in 80 indoor and outdoor female patients of hypothyroidism attending Department of Internal medicine of Government Medical College and Hospital, Kathua during the period of 10 months. Inclusion criteria were- All cases with symptom of hypothyroidism, increased TSH with decreased T3 and T4 levels and asymptomatic cases detected on basis of biochemical parameters.

Results: Commonest symptoms with which the hypothyroid patients presented were fatigue (62.5%), weight gain (57.5%), menstrual problems (47.5%) and cold intolerance (45%). Among clinical signs 52.5% females have pallor, bradycardia was seen in 41.25% patients. Pedal edema with majority having non pitting was seen in 37.5% females. Many patients had skin problems with dry and coarse skin commonest among them. Hair loss was seen in 22.5% patients.

Conclusion: Fatigue, weight gain and menstrual problems were the common complaints among the patients. Pallor and bradycardia were the most common signs during this study followed by skin problems.

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INTRODUCTION

Hypothyroidism is the most common disorder arising from thyroid hormone deficiency. The prevalence of hypothyroidism in India is about

5-6% [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. Particularly in iodine-deficient areas such as India, primary hypothyroidism is common worldwide[2] . The thyroid gland produces two key metabolic hormones viz. thyroxine (T4) and tri-iodothyronine (T3). These hormones regulate metabolic rate, growth and development. The thyroid disorders include hypothyroidism, subclinical hypothyroidism, hyperthyroidism, subclinical hyperthyroidism and Secondary hypothyroidism[3] Their clinical manifestations vary considerably from area to area and are determined principally by availability of iodine in the diet[4]. Reduced thyroid hormone production is the main feature of the clinical condition termed hypothyroidism. Permanent loss or destruction of the thyroid, through processes such as autoimmune destruction or injury, is described as Primary Hypothyroidism. Hypothyroidism is due to transient or progressive impairment of hormone biosynthesis which is typically associated with thyroid enlargement. Central or Secondary Hypothyroidism is caused by inadequate stimulation of a normal gland, the result of hypothalamic or pituitary disease or defects in the thyroidstimulating hormone (TSH)

The earliest form of hypothyroidism called as subclinical hypothyroidism or mild thyroid failure is defined by increased serum thyroid stimulating hormone (TSH) level in presence of normal concentration of circulatory thyroid hormone[5,6]. It occurs in 10-15% general population, more common in females and increases with age. Western studies have shown a prevalence of 4.3% to 8.5% [7, 8]

Subclinical hypothyroidism is more common in women. Among patients with subclinical hypothyroidism, 80% have TSH of less than 10

Results

mIU/l. An association has also been suggested between elevated total serum cholesterol levels and subclinical hypothyroidism. [9] The mild hyperlipidemia present in patients with subclinical hypothyroidism may also increase the risk of atherosclerosis. A recent review suggested that TSH levels greater than 10mIU/l is associated with a higher risk of coronary heart disease and mortality. [10] Increased rate of residual myocardial ischemia is also seen in patients with clinical hypothyroidism. [11] In the neuromuscular system subclinical hypothyroidism may cause peripheral neuropathies [12] muscular weakness and low exercise tolerance. Because of the nature of the disease to occur in subclinical forms and wide clinical spectrum of presentation it is important to study all the possible clinical presentation of patients with hypothyroidism.

Material and methods

This was a cross-sectional observational study , conducted in 80 indoor and outdoor female patients of hypothyroidism attending Department of Internal medicine of Government Medical College and Hospital, Kathua during the period of 10 months. Inclusion criteria were- All cases with symptom of hypothyroidism, increased TSH with decreased T3 and T4 levels and asymptomatic cases detected on basis of biochemical parameters.

Cases of secondary hypothyroidism, pregnant women and chronic renal failure cases were excluded from the study. A detail clinical history was taken and clinical, general and systemic examination was done in all the cases.. In all cases serum T3, T4 and TSH estimation was done using fluorescent microparticle enhanced immunoassay

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Table 1

Age group	Number of patients	Percentage of total
18-30	16	20 %
31-50	34	42.5 %
51-70	24	30 %
More than 70	6	7.5 %



Eighty patients were enrolled in the study at the end of one year data collection period. Majority of the participants, 42.5 % were in the age of group of 31-50 years.. Primary hypothyroidism was found in most of the study participants (92 %) and sub clinical hypothyroidism was seen in 6.2% of the patients. Maximum of the patients, 42.7% had perceived their symptoms for a period of less than 6 months

Commonest symptoms with which the hypothyroid patients presented were fatigue (62.5%), weight gain (57.5%), menstrual problems (47.5%)and cold intolerance (45%). Menorrhagia 1.5% was the commonest gynaecological manifestation with hypothyroidism.

Table 2 : Presenting symptoms of patients

Presenting symptoms	Number of patients	Percentage
Weight gain	46	57.5%
Fatigue	50	62.5%
Constipation	28	35%
Cold intolerance	36	45%
Breathlessness	18	22.5%
Chest pain	10	12.5%
Menstrual problems	38	47.5%

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A family history of hypothyroidism was present in 10 patients. Though a majority (42.5%) of the patients had a BMI within the normal range, Obesity was also recorded in 22.5% patients

Table 3: Disrtibution of patients according to BMI

BMI Category	BMI range	No. of patients N=80
Underweight	< 18.5	8
Normal Weight	18.5 -24.9	34
Over weight	25.00 - 29.99	20



Obese	>30	18
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Among clinical signs 52.5% females have pallor but majority of them was not on treatment of anemia . Bradycardia was the commonest cardiac signs seen among the patients . Pedal odema with majority having non pitting was

seen in 37.5% females . Many patients had skin problems with dry and coarse skin commonest among them . Hair loss was seen in 22.5 % patients

Table 4 : Physical Examination findings

Signs on physical examination	Number of patients	Percentage
Pallor	42	52.5%
Bradycardia	33	41.25%
Pedal odema	30	37.5%
Facial puffiness	28	35%
Dry skin	20	25%
Hair loss	18	22.5%
Hypertension	32	40%

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For studying the effect of level of TSH on clinical presentation, patients were divided in to 3 groups and results were depicted in table

Table 4: Common symptoms in all three TSH groups

Signs and symptoms	Tsh		
	<20	20-40	>40



Signs	Pallor	10	12	20
	Hypertension	4	12	14
	Bradycardia	8	12	13
Symptoms	Fatigue	4	16	30
	Menstrual problems	8	19	9
	Weight gain	4	11	31

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DISCUSSION

The present study evaluated the clinical profile of eighty patients who are diagnosed to have hypothyroidism. Majority of the patients in the present study were middle aged similar results were also observed in other studies by **Saha PK et al. (2007)** and **Vanderpump MPJ et al. (2002)**.

The most common symptoms in primary hypothyroidism patients was tiredness, weight gain and odema feet followed by constipation, muscle pain, change in voice, and breathlessness. Many studies studied these features and the primary symptoms that patients present to the doctor . In a study done by **Bitey S. et al(2019)**. 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 . 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.(2009)**

Commonest signs observed were pallor ,hypertension , bradycardia and Oedema feet followed by puffiness of face, which was comparable with the study done by **Singh et al.(2002)**. In current study, pallor was present in 52.5% of patients , pallor present in mainly females could be because of menstrual abnormalities present in hypothyroidism. In a study done by **Canaris GJ et al.(2000)** it was seen that hoarse voice (17%), dry skin (71%), Constipation (17%), poor memory (18%), cold intolerance (51%), menstrual irregularities (30%) and tiredness (40%) were observed among the hypothyroid patients, the results of which are in line with our study. Compared to overt hypothyroidism, subclinical hypothyroidism may prove challenging to diagnose. Because the clinical presentation of subclinical hypothyroidism is non-specific and symptoms are usually subtle as compared to overt hypothyroidism.



Thyroid hormones are found to have profound effects on reproduction and pregnancy. Dysfunction of the thyroid gland is implicated in a broad spectrum of reproductive manifestations, ranging from menstrual irregularities to pregnancy loss. The higher number of women with subclinical hypothyroidism may have implications on fertility and future pregnancies.

The strength of the present study is that a comprehensive evaluation of all the symptoms and signs was done in patients. Also standard diagnostic criteria and guidelines were followed for clinical examination of all the patients. The present study is also one of the unique research work carried out in the region.

Conclusion

Diagnosis and treatment of hypothyroidism is very often considered to be simple when clinical features are established and with the estimation of TSH and thyroid hormone status. With nearly one fifth of the affected population and clearly established causative factors and treatment guidelines, early diagnosis and initiation of treatment is of prime importance. Because of the nature of the disease to occur in subclinical forms and wide clinical spectrum of presentation it is important to study all the possible clinical presentation of patients with hypothyroidism.

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