



## Original Article

# A Study on the Clinical Presentation of Patients with Hypothyroidism

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### Abstract

This study has the intention to look for the common signs and symptoms of hypothyroidism in persons with clinical diagnosis of hypothyroidism that was confirmed by laboratory tests.

This retrospective study was undertaken at Pabna, Bangladesh, from July 2009 to November 2010 among 54 patients with hypothyroidism visiting Medicine Department of 250 bedded Pabna General Hospital and private chamber of the author. Patients belonged to some parts of Pabna, Natore, Serajganj and Kushtia Districts. All cases with probable diagnosis of hypothyroidism based on the signs and symptoms were included in the study.

Patients who completed questionnaires (n=54) were interviewed three times during this period. Female/male ratio was 9.3/1. The most common symptoms were lethargy, weight gain, cold intolerance and menorrhagia. The most common signs were puffy face and pallor. Severe disease was noticed in 3.7%. Mild type was the most common presentation of hypothyroidism (66.67%).

The most common signs and symptoms of hypothyroidism at Pabna and surrounding districts were different from other studies. Socio-demographic and nutritional status, illiteracy level and personal care are among the probable causes. Unfortunately, concomitance of some of the signs and symptoms are not diagnostic for hypothyroidism. It seems that strong clinical suspicion and laboratory confirmation are the only reliable methods for hypothyroidism diagnosis.

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### Introduction

Hypothyroidism is usually results from decreased production of thyroid hormones or resistance to them. It is a condition resulting from insufficient production or diminished action of thyroid hormones. It may begin in utero or later in life.

Hypothyroidism is characterized by a generalized reduction in metabolic function that most often manifests as a slowing of physical and mental activity. The clinical presentations may vary from

mild and asymptomatic to severe and overt disease and may also depend on the patient's age, gender and physical condition. In most spontaneous cases, a decrease in thyroid function occurs gradually, with sub-clinical hypothyroidism progressing over time to overt hypothyroidism.<sup>1-3</sup>

Although clinical symptoms may suggest hypothyroidism, they usually are not specific, which can only be confirmed by laboratory assessments of thyroid function. Hypothyroidism

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may be associated with either a decrease or an increase in thyroid size (goiter). Some patients will present with obvious symptoms of hypothyroidism and minimal changes in thyroid hormone levels, whereas others will have subtle symptoms despite markedly abnormal thyroid function.<sup>1-3</sup>

Because of the wide-ranging physiologic effects of thyroid hormones, hypothyroidism can have profound detrimental effects on numerous organ systems. In very young infants, hypothyroidism can result in irreversible mental retardation and slowed physical growth unless thyroid hormone replacement therapy is initiated within weeks after birth. This has led to the routine testing for congenital hypothyroidism in newborn infants. In most patients, primary hypothyroidism can be confirmed by appropriate laboratory tests and subsequently treated with thyroid hormone replacement therapy.<sup>1-3</sup> Unusual presentations of acute hypothyroidism often go unrecognized and delay the onset of effective therapy.<sup>2</sup> In the Iodine efficient areas like the United States, hypothyroidism is seen in 1-8% of the general population; but in iodine deficient areas its prevalence is 10-20 folds more.<sup>2</sup>

Annual incidence of autoimmune hypothyroidism is 4 in 1000 in female and 1 in 1000 in male. Its prevalence rises after 60 years-old and approaches to 6-7%. Generally, one female suffers from hypothyroidism more by 5-10 fold in contrast to males.<sup>2</sup> It seems that in the iodine deficient areas the incidence and prevalence rate of hypothyroidism are higher than the normal range in developed countries. The signs and symptoms are different from the general presentation. In iodine deficient areas the disease has a typical presentation.

One study suggested that the presentation of hypothyroidism is altered in the elderly in comparison with young patients because there are fewer signs or symptoms and diminished frequency of some classical signs.<sup>4</sup> However; clinical features vary significantly among different populations owing to their climate, education status and awareness about the disease. The presentation of hypothyroidism is non-specific and high degree of suspicion is required for its early diagnosis.<sup>3</sup> This study was designed to evaluate

the clinical presentations of hypothyroidism in a population of iodine deficient area in the western part of Bangladesh.

### Patients and Methods

Thirty eight consecutive patients with ankylosing spondylitis of both sexes were enrolled in this observational study. This study is carried out in the rheumatological wing of the department of medicine in collaboration with department of gastroenterology and pathology, BSM medical university, Dhaka and study continued from November 2000- to October 2001. The patients were selected on the basis of revised New York criteria (1984) for ankylosing spondylitis and having normal bowel habit<sup>(12)</sup>. Less than three motion in a day or more than three motions per week is considered as normal bowel habit.

### Results

Patients who completed questionnaires (n=54) were interviewed three times during this period. Female/male ratio was 9.3 to 1 (49 female, 5 male). Mean age was 34.2 years-old. The oldest patient was a 65-years-old and the youngest was an 18 year old girl.

Thirty two patients (59.26%) were diagnosed before the study started and 22 (42.74%) were diagnosed during this investigation. One third of the old cases had some complaints despite the treatment. Among the old cases, 30 had normal results in the laboratory tests. All of the population had acquired type hypothyroidism. The most common signs included lethargy, cold intolerance, weight gain and menorrhagia (Table-I).

**Table-I:** Common presentations of Hypothyroidism (Symptoms)

Symptoms	Number of patients (N)	%
Lethargy	46	85.15%
Weight gain	42	77.78%
Cold intolerance	37	68.52%
Menorrhagia	35	64.81%
Constipation	33	61.11%
Voice change	32	59.26%
Dry skin	28	51.85%
Depression	21	38.89%
Difficulty in concentration	20	37.04%
Muscle / joint pain	15	27.78%
Drowsiness	5	9.26%

As shown in Table-II, the most common signs were puffy face and pallor. The severe type of the disease was seen in 3.7% of cases. The most common presentation of hypothyroidism was the mild type (60%). Presentation of disease was mild in thirty six patients (66.67%); moderate in sixteen patients (29.63%) and severe in two cases (3.7%).

**Table-II:** Common presentations of Hypothyroidism (Signs)

Signs	Number of patients (N)	%
Puffy face	40	74.07%
Pallor	38	70.37%
Loss of scalp hair	33	61.11%
Decreased sweating	33	61.11%
Bradycardia	33	61.11%
Loss of pubic and axillary hair	30	55.56%
Hypothermia	25	46.30%
Hyporeflexia	21	38.89%
Abdominal distension	18	33.33%
Goiter	5	9.26%
Dependent edema	5	9.26%
Myxedema	1	1.85%
Uncontrolled hypertension	1	1.85%
Macroglossia	1	1.85%

## Discussion

As the results showed 32 cases (59.26%) were diagnosed before this survey, 42.74% were referred due to the clinical presentations and were thus diagnosed. In this study, eight percent of the patients were diagnosed at the late stage of the disease that was lower than other studies.<sup>5</sup> Male to female ratio was 9.3 to 1, while in other studies too, this higher ratio was reported. It has been suggested that sex hormones have an important role in the autoimmune thyroid disease.<sup>5,6</sup>

In other studies the most sufferers were in the third and fourth decades of the life.<sup>5</sup> In our study it was seen in the third decade of the life. May be more environmental antigen exposure and nutritional deficiency are among the probable causes suggested for this.

High incidence of the hypothyroidism in iodine deficient areas interferes with hormonal changes and makes the diagnosis more difficult, e.g. menstruation disturbances or tendency to the lower

weight in this age-range presents like hypothyroidism. Goiter was seen in 9.26% of the cases in the present study. Some investigators have suggested the concomitant of hypothyroidism and goiter as Hashimoto disease.<sup>7</sup> Measurement of the thyroid antibodies was not accessible in this study. Hyporeflexia was observed in 38.89% of our cases.

Lethargy, weight gain, cold intolerance and menorrhagia were the most common complaints in this study. Uncontrolled hypertension was also found in one case, which resolved after treatment of hypothyroidism. Irregularity in menstrual cycle and menorrhagia, dry skin, cold intolerance, edematous face and hoarseness of voice were reported as the most common symptoms in other studies.<sup>5,9</sup> cold intolerance, due to the reduced basal metabolism and cardiac output has been reported a very common symptom of hypothyroidism.<sup>5</sup>

Clinical features of hypothyroidism vary significantly among different populations owing to their climate, education status and awareness about the disease.<sup>3</sup> The presentation of hypothyroidism is altered in the elderly in comparison with young patients; in that there are fewer signs or symptoms and diminished frequency of some classic signs.<sup>4</sup>

## Conclusions

In the present study, common signs and symptoms of hypothyroidism varied a lot. We hope this study will help physicians to think about hypothyroidism in more patients, and help them to be careful making diagnosis, as this disease is not very uncommon in our country. It seems that the socio-demographic and nutritional behaviors are among the probable causes.

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