

Original Research Article

Study of Clinical Profile of Hypothyroidism in a Tertiary Care Hospital


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Abstract

Introduction: Hypothyroidism affects almost all organ of the body and many of the clinical symptoms and signs of the hypothyroidism are nonspecific and most of the times the diagnosis is made with the help of thyroid function tests.

Material and methods: A hospital based prospective study were carried out in different wards of General Medicine in Indira Gandhi Institute of Medical Sciences, Patna and total 100 patients were included in this study. The aim of this study was to access the clinical profile, biochemical Abnormalities and effect on major organ system of hypothyroidism.

Results: In present study, total 100 patient of hypothyroidism were included out of these 68 (68%) were female and 32 (32%) were male. The maximum number of patients was in the age group of 31 to 40 years. 3 (3%) cases were above the age of 71 years. The most common symptoms were weakness 92 (92%), Dryness of skin 76(76%), weight gain 64(64%), Facial puffiness 54(54%), constipation 48(48%) and Menstrual irregularities 38(38%) whereas most common Sign were pedal oedema 43(43%), Hypertension 40(40%), Dyspnea 30(30%).

Conclusion: Hypothyroidism is a common hormonal disorder and often under diagnosed therefore early detection of hypothyroidism is key to healthy life and also prevent long term morbidity and mortality.

Key words

Hypothyroidism, Clinical manifestation, Age.

Introduction

Hypothyroidism is a clinical state that results from failure of adequate production of thyroid hormone within the thyroid gland. Hypothyroidism and subclinical hypothyroidism are common conditions seen in clinical practice and are diagnosed often on laboratory parameters [1]. These conditions are more common in women and are often undiagnosed in clinical practice [2]. In a developing and densely populated country like India communicable diseases are priority health concerns due to their large contribution to the national disease burden [3] but there have been no nationwide studies on the prevalence of Hypothyroidism in India.

The common symptoms and signs reported in hypothyroidism are fatigue, lethargy, constipation, weight gain, cold intolerance, loss of libido, dry skin, anemia, bradycardia and delayed ankle reflex [4]. Many of these are non-specific and might have little diagnostic value clinically [5].

Many authors believe that there is down grading of clinical spectrum of hypothyroidism and now lot of subclinical, overt hypothyroidism is being detected by the means and biochemical profile alone [6]. Despite increasing knowledge of pathophysiology of the thyroid disorder and the advent of highly sensitive assay for investigation of the thyroid gland function, hypothyroidism has frequently remained undiagnosed [7]. This is probably because of wide variety of presenting sign and symptoms.

Thyroid disease is different from other disease in terms of their ease of diagnosis, accessibility of medical treatment and relative visibility of thyroid swelling. Early diagnosis and treatment remain the corner stone of management [8].

Aim and objectives

The aim of this study was to access the clinical profile, Biochemical Abnormalities and effect on major organ system of hypothyroidism.

Materials and methods

A hospital based prospective study were carried out in different wards of general medicine in Indira Gandhi Institute of Medical Sciences, Patna and total 100 patients were included in this study. The duration of the present study was one year and proper consent was taken from the institutional ethics committee. All the cases in this study were examined according to a clinical plan and investigated as the per need.

Laboratory test which included FT4, FT3, TSH, complete blood count, renal function test, liver function test, lipid profile, blood and sugar were done. Specific investigation like ECG, Echocardiography, Chest X-Ray was also advised accordingly.

Inclusion criteria

- All the patients presented with signs and symptoms suggestive of hypothyroidism.
- Patients with thyroid profile suggestive of hypothyroidism
- Age more than 15 years of age.
- Patients who given the consent for the study.

Exclusion criteria

- Patients whose thyroid profile were in the normal limits.
- Patients who were not given consent for the study.
- Age less than 15 years of age.

Results

In present study, total 100 patient of hypothyroidism were evaluated out of these 68 (68%) were female and 32 (32%) were male (**Table - 1**). Male to female ratio in this study was 2:1. The maximum number of patients was in the age group of 31 to 40 years. 3 (3%) cases were above the age of 71 years (**Table - 2**). The most common symptoms were weakness 92 (92%), Dryness of skin 76(76%), weight gain 64(64%), Facial puffiness 54(54%), constipation 48(48%), Menstrual irregularities 44(44%), Hoarseness of voice (36%), Chest Pain (32%), Anorexia (32%), Cold Intolerance (26%),

Thyroid Swelling (23%), Falling of hair (18%) (Table - 3) whereas most common Sign were pedal oedema 43 (43%), Hypertension 40 (40%), Dyspnoea 30(30%), Bradycardia 22(22%), Pallor 20(20%), and Delayed ankle reflexes 18 (18%)

(Table - 4). Out of 68 females in this study 44 females have menstrual irregularities while 24 had no menstrual irregularities, 20 had menorrhagia while 15 females had oligomenorrhoea and 9 had Polymenorrhagia.

Table - 1: Sex Distribution in study Group.

| Sex | No. of patients | Percentage |
|--------|-----------------|------------|
| Male | 32 | 32% |
| Female | 68 | 68% |

Table - 2: Age distribution in cases of hypothyroidism.

| AGE (years) | Male (N-32) | Female (N-68) | Total |
|-------------|-------------|---------------|----------|
| 15-20 | 3 (3%) | 5(5%) | 8 (8%) |
| 21-30 | 4 (4%) | 8(8%) | 12 (12%) |
| 31-40 | 10 (10%) | 20(20%) | 30 (30%) |
| 41-50 | 7(7%) | 17(17%) | 24 (24%) |
| 51-60 | 5(5%) | 9(9%) | 14 (14%) |
| 61-70 | 2(2%) | 7(7%) | 9 (9%) |
| Above 71 | 1(1%) | 2(2%) | 3 (3%) |
| Total | 32% | 68% | 100% |

Table - 3: Symptoms of Hypothyroidism.

| SYMPTOMS | Number | Percentage |
|------------------------|--------|------------|
| Weakness | 92 | 92% |
| Anorexia | 32 | 32% |
| Weight gain | 64 | 64% |
| Cold Intolerance | 26 | 26% |
| Constipation | 48 | 48% |
| Menstrual Irregularity | 44 | 44% |
| Dryness of skin | 76 | 76% |
| Hoarseness of voice | 36 | 36% |
| Falling Of hair | 18 | 18% |
| Facial Puffiness | 54 | 54% |
| Thyroid Swelling | 23 | 23% |
| Chest Pain | 32 | 32% |

Table - 4: Signs of Hypothyroidism.

| Signs | No. of patients | Percentage of patients |
|------------------------|-----------------|------------------------|
| Pallor | 20 | 20% |
| Pedaloedema | 43 | 43% |
| Bradycardia | 22 | 22% |
| Dyspnoea | 30 | 30% |
| Delayed ankle reflexes | 18 | 18% |
| Hypertension | 40 | 40% |

Discussion

Hypothyroidism is a common endocrine disorder and affects almost all organ of the body. In present study, out of 100 patients there were 32% male and 68% female. This finding closely related to studies carried out by Haritha, et al. [9] in which there were 76% female and 20% male out of 100 patients. Our study also closely relates to a study done by Ali Jabbari [10], with 84% females and 16% male patients. The most common age group affected in our study was between 31-40 years of age, in which 30% cases were noted, which is comparable to observation made by Saha Pradip Kumar, et al. [11], who found maximum number of case in 36 – 45 year age group. The most common symptoms were weakness (92%), Dryness of skin (76%), weight gain (64%), Facial puffiness (54%), constipation (48%) and Menstrual irregularities (38%) whereas most common Sign were pedal oedema (40%), Dyspnoea (30%), Bradycardia (92%), Pallor (20%), and Delayed ankle jerk (18%). Ravindra Kumar, et al. [12], found in their study that dry skin was the most common symptom followed by loss of hairs, gain of weight, constipation, menstrual disturbances and hoarseness of voice. In our study the incidence of constipation was 40 (40%). This finding closely relates to studies carried out by Zulewski, et al. [13], who reported the constipation (52%). In this study of 100 patients, total 22% patients were having Bradycardia. This finding was in accordance with Ashok Kumar, et al. [14] who reported bradycardia 29.4%. Menorrhagia (20 %) was the most common complaint among the patients with menstrual disorders due to hypothyroidism, however observations of Pahwa, et al. [15] in his study shows that menorrhagia (50 %), was the most common complaint which was more than this study.

Conclusion

Routine screening of patients with signs and symptoms of weakness, Anorexia, Weight gain, Cold Intolerance, Constipation, Menstrual irregularity, Dryness of skin, Hoarseness of voice, Falling of hair, facial puffiness, Thyroid

swelling, Menstrual irregularities, Chest pain, Pedal oedema, Bradycardia, Hypertension. Dyspnoea, and Pallor should be carried out so that hypothyroidism can be diagnosed and managed earlier.

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