

Original Article

Clinical profile of patients with hypothyroidism

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Abstract:

Background: Patients with hypothyroidism present a morbid life. The quality of life is low. Under this scenario, understanding the clinical profile of these patients helps to modest their quality of life by the physician.

Objectives: To study the clinical profile of patients with hypothyroidism

Methods: A hospital based cross sectional study was carried out to study the clinical profile of patients with hypothyroidism. Institutional Ethics Committee permission was obtained and informed consent was taken from each and every patient. A pre tested, semi structured questionnaire was prepared and the data was collected. Detailed history, complete general examination was carried out. Data was entered and analyzed.

Results: females had a higher incidence of hypothyroidism than men. Most common symptoms are of dry skin, hair loss, weight gain, lethargy, constipation, menorrhagia and hoarseness of voice. On general examination most common findings are weight gain and dry skin found in around 49.99% and 83.33% of patients respectively. Goiter was found in 16.6% and pallor in 26.66% of patients. Pulse < 60 /min was found in 6 patients and BP above 140/90 mmHg was found in 3.33% of patients.

Conclusion: This study comprised of 30 patients, all of them were newly diagnosed hypothyroid patients, with no other co-morbidity. As in most literature, there was a female preponderance in this study. Most patients belonged to the age groups of 21-60 years. The most common of the symptoms included weight gain, hair loss, dry skin, hoarseness of voice, lethargy, cold intolerance and constipation.

Key words: Hypothyroidism, patients, clinical profile

INTRODUCTION:

The clinical syndrome of hypothyroidism was first described by Gull in 1874. ¹ In 1891 G. R Murray reported successful treatment of myxoedema by thyroid extract given subcutaneously. In 1892 Fox and Mackenzie showed that oral administration of thyroid hormone was equally effective. In 1915, Kendall finally crystallized the pure hormone and named it "THYROXINE". The "MYXOEDEMA HEART" was first classically described by Zondek in 1918. ² Munch described the characteristic dilated cardiac silhouette, low ECG voltages and slow indolent heart action, all of which were reversed by thyroid therapy. Kurtzman diagnosed pericardial effusion by CO₂ angiocardiology. It was in 1926, that Harrington and Bargar first synthesized Levothyroxine.

Feigenbaum H and Waldhausenja Hydela in 1965, first used

ECHO to detect pericardial effusion. ³ This discovery revolutionized the detection of cardiac abnormality in myxoedema. In 1967 Buccino et al ⁴ examined the effect of thyroid hormones on the intrinsic contractile properties of isolated cat papillary muscles and cardiac energy stores from myocardial biopsies and suggested that thyroid hormones had an independent effect on the myocardial contractility. In 1968, Morteza et al studied the systolic properties and their relation to the sympathetic tone. By 1978 with the advent of the ECHO, researchers began studying subtle functional abnormalities in the disease. Edward W. Bough showed depressed systolic function in the hypothyroid state.

In the 1980s Dillman and Sejal pointed out the nuclear receptor binding of the thyroid hormone in mediating its effects. Moreley and Matilla at about the same time pointed out the indirect action of thyroid hormone via the

sympathetic system. ⁵ By the turn of the 20th century various researchers began studying the various effects of thyroid hormone on the heart and postulating mechanisms for the same.

MATERIAL AND METHODS

Prospective Cohort Study consisting of 30 new cases of newly detected hypothyroidism, convening to the inclusion criteria were enrolled into the study after being explained the proceedings of the study and after they signed the consent form. On initial assessment, symptoms with examination findings were noted as per the proforma. They were investigated on parameters such 12 lead ECG and 2D Echo at presentation and after 3 months follow up, during which period they were on treatment with Levothyroxine substitution therapy based on their body weight.

RESULTS

Table 1: Age and sex wise distribution of the study subjects

Age in years	Male	Female	Total
21-30	01 (3.33%)	07 (23.33%)	08 (26.66%)
31-40	03 (9.99%)	05 (16.66%)	08 (26.66%)
41-50	00	06 (20%)	06 (20%)
51-60	03 (9.99%)	03 (9.99%)	06 (20%)
61-70	01 (3.33%)	00	01 (3.33%)
71-80	01 (3.33%)	00	01 (3.33%)
Total	09 (30%)	21 (70%)	30 (100%)

In males, the most common age group in which hypothyroidism was encountered was 21-40 and 51-60 years, whereas amongst the females, ages 21-40 years were more frequently found to have hypothyroidism. Among the sexes, in concordance to many studies, females had a higher incidence of hypothyroidism than men. The female population constituted about 70% of the total.

Table 2: Distribution of study subjects as per their symptoms

Symptom	Number	Percentage
Cold intolerance	09	30
Weight gain	13	43.33
Lethargy	11	36.66
Dry skin	22	73.33
Hoarse voice	07	23.33
Constipation	13	43.33
Depression	03	9.99
Hair loss	22	73.33
Menstrual symptoms	06	20

Most common symptoms are of dry skin, hair loss, weight gain, lethargy, constipation, menorrhagia and hoarseness of voice. Dry skin and Hair loss was found in 73.33% of

patients. Weight gain and constipation was found in 43.33% of the patients.

Table 3: Distribution of study subjects as per their signs of general examination

General examination	Number	Percentage
Pallor	08	26.66
Edema	09	30
Goiter	05	16.6
Skin changes	25	83.33
BMI > 25 kg/m ²	15	49.99
Pulse < 60/min	06	20
Blood pressure more than normal	01	3.33

On general examination most common findings are weight gain and dry skin found in around 49.99% and 83.33% of patients respectively. Goiter was found in 16.6% and pallor in 26.66% of patients. Pulse < 60 /min was found in 6 patients and BP above 140/90 mmHg was found in 3.33% of patients.

DISCUSSION

The present study included 30 patients, conducted at Mediciti Institute of Medical Sciences, the study period being January 2012- July 2013. This discussion analyzes data obtained from the study, and compares it to that obtained in previous studies done with similar objectives in mind.

Age and Sex Distribution

The age range of the study is between 21-80 years. Most patients belonged to the age groups of 21-60 years. There is an overall female preponderance over all age groups. The female population constituted about 70% of the total. This is well in concordance to Harrison’s Principles of Internal Medicine

Sex ratio in various studies are seen as follows

Present Study	William FC et al ⁶	Jagdish et al ⁷	Sharath et al ⁸
F:M			
3:1	4:1	3.3:1	3:1

Symptom Analysis

The most common of the symptoms included weight gain, hair loss, and dry skin, hoarseness of voice, lethargy, cold intolerance and constipation. Many studies disclose these features amid the primary symptoms that patients present to

the physician. Menorrhagia was found to account for 14.1% of hypothyroid patients who were being worked up for infertility; was a common menstrual abnormality amongst hypothyroid females in a study by Fauzia Imtiaz et al.⁹

General Examination

On general examination most common findings are weight gain and dry skin was found in around 49.99% and 83.33% of patients respectively. Goiter was found in 16.6% and pallor in 26.66% of patients. BP above 140/90 mmHg was found in 3.33% of patients only, on contrary to study by Sharath Kumar et al.⁸ and Kral et al.¹⁰, who documented hypertension in 25% & 35% of patients respectively.

CONCLUSION:

This study comprised of 30 patients, all of them were newly diagnosed hypothyroid patients, with no other co-morbidity. As in most literature, there was a female preponderance in this study. Most patients belonged to the age groups of 21-60 years. The most common of the symptoms included weight gain, hair loss, dry skin, hoarseness of voice, lethargy, cold intolerance and constipation.

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