Original Research Article

Study on clinical and etiological profile of hypothyroid patients at tertiary care center

Lokesh N K[1*], Suresh C[2], Manju B[3]

[1]Assistant Professor, Department of General Medicine, Mandya Institute of Medical Sciences, Mandya, Karnataka, India
[2]Assistant Professor, Department of General Medicine, Mandya Institute of Medical Sciences, Mandya, Karnataka, India
[3]Assistant Professor, Department of General Medicine, Mandya Institute of Medical Sciences, Mandya, Karnataka, India

Received: 03-07-2021 / Revised: 07-08-2021 / Accepted: 06-10-2021

Abstract

Background: Hypothyroidism was common endocrine disorder all over the world.Most prevalent among Indian population. common symptoms of hypothyroid patients were fatigaability,weight gain. Most of the time symptoms were non specific,most common aetiology for hypothyroid patients was auto immune aetiology like Hashimoto's thyroiditis. **Aims:** To determine the etiological profile of hypothyroid patients and to describe various Clinical Manifestations in Hypothyroid patients. **Materials and Methods:** The hospital based cross sectional observational study was carried out in department of General Medicine, atMandya institute of medical sciences ,Mandya. Total 90 patients were included in the study. **Results:** In present study, total 90 patients were included, out of these 84(93.3%) were females and 6(6.7%) were males. Most common age group was 31-40(37.7%) years, followed by 41 -50(33.3%) years. most common symptoms were fatigability(57.7%),weight gain (53.3%),hair loss (38.8%). Most common Etiology was Hashimoto's thyroidits(46.6%). **Conclusions:** Hypothyroidism was common endocrine disorder among females. Early diagnosis can be made out by Biochemical investigations. Early treatment can prevent long term Morbidity.

Keywords: Hypothyroid,weightgain,Fatigabality,Hashimoto's thyroidits.

Introduction

Hypothyroidism was common endocrine disorder.Thyroid dysfunction is common, readily identifiable and easily treatable, but if undiagnosed or untreated, it can have profound adverse effects. According to a projection from various studies on thyroid disease, it has been estimated that about 42 million people in India suffer from thyroid diseases[1]. Prevalence of Hypothyroidism among Indian population was 10.95%[3]. In developed countries autoimmune thyroid disease (Hashimoto thyroiditis) is the most common cause of hypothyroidism, but globally lack of iodine in the diet is the most common cause.Ever since India adopted the universal salt iodination program in 1983 there has been a decline in goitre prevalence in several parts of the country, which were previously endemic. The most common symptoms and signs of Hypothyroidism was weigh gain, fatigability, menorrhagia, dry skin, edema, bradycardia[2]. Many of these symptoms were non specific and might have little diagnostiv value. 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. This is probably because of wide variety of presenting sign and symptoms[4]. Primary causes can include autoimmune disease, Iatrogenic causes like thyroidectomy, Radioactive iodine therapy, Meadication and Radiation Exposure. Early diagnosis and treatment remains the corner stone of management.

*Correspondence
Dr. Lokesh N K
Assistant professor, Department of General Medicine, Mandya Institute of Medical Sciences, Mandya, Karnataka, India
E-mail: lahari2k253@gmail.com

Materials and Methods

Hospital based cross sectional observational study was carried out in the department of medicine at Mandya institute of medical sciences, Mandya. Study period was from May 2021 to July 2021.Institutional Ethics Committee permission was obtained.

All recently diagnosed cases of Hypothyroidism patients were included in the study. Written and informed consent was taken from the study subjects after explaining to them the plan and intention of the study in the language best known to them. Information was collected through structured pro-forma from each patient. All patients will be interviewed as per the structured pro-forma. A detailed enquiry was made about name, age, sex, address, symptoms, treatment history. A detailed systemic examination was done. Routine investigations reports were collected including Thyroid profile, Thyroid scan, Anti TPO antibodies and fine needle aspirational cytology (FNAC).

Inclusion criteria

All Diagnosed cases of Hypothyroidism.(Who underwent routine investigations)

Age more than 14 years

Exclusion criteria

Patients with comorbidity like Diabetes Mellitus,,Hypertension ,Coronary Heart Disease and Chronic Kidney Diseases.

Statistical analysis

The data was entered in the Microsoft Excel worksheet and Analysis was done using descriptive statistics like proportion, percentage, mean, and standard deviation.

Results

Total 90 patients were included in our Study,among 84(93.3%) patients were females and 6(6.7%) patients were males. Most common age group among females was 31-40 (36.7%) years followed by 41-50 (33.3%) age group. Most common age group among males

was 51-60 (83.3%).Mean age among females was 36.87 years and males was 53.3 years.

Table 1: Age and sex wise distribution among study objects

Age group in years	Female	Male	Total
15-30	14(16.6%)	0	14(15.6)
31-40	33(39.3%)	1(16.7%)	34(37.8%)
41-50	30(35.7%)	0	30(33.3%)
51-60	7(8.3%)	5(83.3%)	12(13.3%)

Most common symptoms of study group include ,fatigabality (57.7%),weight gain (53.3%) ,hair loss (38,9%),followed by menorrhagia (36.7%).Most common signs among study group was dry skin (33.3%),puffy face (6.7%) followed by oedema (4.4%).31 patients were overweight (34.4%) and 3 (3.3%) patients were obese. 4 (4.4%) patents had blood pressure of more than 140/90.ECG of 7 (7,7%) study group shows sinus bradycardia.

Table 2: Symptoms wise distribution of study group

Symptoms	Number	Frequency
Fatagability	52	57.7%
Weight gain	48	53.3%
Hair loss	35	38.9%
Menorrhagia	33	36.7%
Cold intolerance	21	23.3%
Constipation	19	21.1%
Dyspnea	7	7.7%
Horse voice	7	7.7%
Difficulty in concentration	1	1.1%

Table 3: Signs wise disrtribution of study group

Signs	Number	Percentage
Dry skin	30	33.3%
Puffy face	6	6.7%
Edema	4	4.4%
Goitr	11	13.7%
BMI(>25)	34	37.7%
BP (>140/90)	4	4.4%
Sinus bradycardia	7	7.7%

Out of 90 patients 42 patients (46.7%) were Anti Thyroid peroxidase (TPO) positive. Out of 90 patients 63 patients ((70%) had normal thyroid scan,11 (13.8%) patients had Multi nodular goitre(MNG).6 patients (7.5%) had diffuse enlargement. FNAC of 40 patients (44.4%) shows features of Hashimoto thyroiditis.30 patients (37.5%) shows normal study.11 patients (13.8%) shows features of colloid goitre.2 patients (2.5%) shows thyroiditis.7 patients were (7.8%) post thyroidectomy cases.3 case were (3.3%) post radiation .

Table 4: Investigation wise distribution of study group

Anti TPO			**Thyroid scan**			
positive	42	46.7%	**Results**	number	percentage	
negative	48	53.3%	**normal**	63	70%	
			MNG	11	13.8%	
			Diffuse enlargement	6	7.5%	

Table 5:FNAC findings of study group

FNAC findings	Number	Percentage
Hashimoto thyroiditis	40	44.4
Colloid goitre	11	13.8%
Normal	30	37.5%
Not done	9	10%

Discussion

In our hospital based cross sectional study, females (93.3%) outnumbered males (6.7%).Mean age in females was 36.8 years and in males was 53.3 years. Most common age group was 31-40 (37.8%) years, followed by 41-50 (33.3%) years. Most common symptoms was fatagability (57.7%),weight gain (53.3%) followed by menorrhagia (36.7%). Most common sign was BMI more than 25 in 34.4% patients, dry skin (33.3%),followed by puffy face (6.7%).

Study done by J. Gopala Krishna, U. Kishan[1] showed the total number of male patients was much lower only 10(25%) compared to 30(75%) female patients. The most common age group affected was 31-40 years followed by 21- 30 years which is in accordance with the present study. Among all the symptoms with which the patients presented, the most common symptom was weight gain which was seen in 29(72.5%) of the cases. The most common presenting sign was BMI >25 kg/m2 in 27 cases i.e. 67.5% quite similar to our study.

Sahithi Rallabandi et al[5], included 200 patients in the study, out of which 154 were female and 46 were male and In females, Menorrhagia and Hair loss was found in 58.44% and 50.64% of patients respectively. Dry skin was found in 28.57% of patients. Weight gain and Constipation was found in 27.92% and 24.02% of the patients respectively.Manoj Kr.Choudhary et al[6], included 100 patient of hypothyroidism, 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. 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%).

Table 6:Comparison of clinical profile with other studies.

Clinical profile	Present study	J Gopala Krishna[1]	Sahithi Rallabandi[5]	Manoj Choudhary et al[6]
Females	84(93.3%)	30(75%)	154(77%)	68 (68%)
Males	6(6.7%)	10(25%)	46((23%)	32 (32%)
Common age group	31-40(37.8%)	31-40 (47.5%)	75(37.5%)	31-40 (30%)
Fatagability	52(57.7%)	26(65%)	21.42%	92(92%)
Weight gain	48(53.3%)	29(72.5%)	65.21%	64 (64%)
menorrhagia	35(36.7%)	12(40%)	58.44%	44(44%)
Dry skin	30(33.3%)	25(62.5%)	28.75%	76 (76%)
BMI(>25)	34((37.7%)	27(67.5%)	29.2%	64 (64%)

In our study 42 patients (46.7%) was positive for anti TPO. Study done by Ambika Gopalakrishnan Unnikrishnan et al[1] found, Females showed a greater prevalence (26.04%) than males (16.81%). Females in the age group of 46-54 had the highest prevalence (27.86%) of anti-TPO antibodies.

Thyroid scan of 63 patients (78.7%) was normal.11 patients(13.7%) found to had multi nodular goitre. FNAC of 40 (44.4%) patients showed features of Hashimoto's thyroidits.8 patients (8.9%) showed colloid goitre.In our study commonest cause for hypothyroidism was auto immune aetiology like Hashimoto's thyroiditis (46.7%).8 patients (8.8%) showed decreased urinary iodine excretion.7 patients (7.8%) were post thyroidectomy cases.3 patients (3.3%) were received radiation therapy.

Conclusion

All female patients aged more than 20 years should be screened for hypothyroidism if they have symptoms like weakness, weight gain ,dry skin and menstrual problems and even for infertility.should rule out hypothyroidism in patients with autoimmune disorder.Early diagnosis helps in better management and preventing long term complications.In the past, iodine deficiency was blamed for the occurrence of hypothyroidism in India, but the disease is still prevalent in this country, despite the promotion of iodised salt.it is important to spread awareness in the population and do targeted screening and early management of the disease. "India has impressive policies to deal with non-communicable diseases. The non-communicable disease prevention programme needs to include thyroid disorders also.

References

1. Ambika Gopalakrishna et al. Prevalence of hypothyroidism in adults: An epidemiological study in eight cities of India. Indian J EndocrinolMetab 2013;17(4):647-52.
2. Swetha R Lakshetty ,NandiniDevru.Clinical profile of hypothyroidism: A cross sectional study.International Journal of Medicine Research.2021 March;6(1):54-57.
3. Ambika Gopalakrishnan Unnikrishnan, Usha V. Menon.Thyroid disorders in India: An epidemiological perspective Indian Journal of Endocrinology and Metabolism.2011;15(2):78-81.
4. Vairamanikandan, P Sathyamurthy. Clinico-laboratory Profile of Hypothyroidism with Emphasis on Cardiovascular Manifestations. Panacea Journal of Medical Sciences,2016 ;6(2): 59-65.

5. Sahithi Rallabandi,Challa.Clinical Profile of Hypothyroid Adults of Reproductive Age Group- A Cross-Sectional Observational Study.International Journal of Health Sciences and Research.2020 ;10((9):138-143.
6. Manoj Kr. Choudhary et al.Study of Clinical Profile of Hypothyroidism in a Tertiary Care Hospital.International Archives of Integrated Medicine.2021 July;8(7):30-34.
7. Shobhana Bitey , Amol Bitey.Clinical profile of primary hypothyroidism.International Journal of Biomedical Research.2019;10(3):1-6.
8. Paudel B, PaudelK ,Upadhaya TL. Clinical manifestations of hypothyroidism in residents of western region of Nepal: A case control study. Nepal Journal of Medical Sciences 2013;2(1):62-65.
9. Ravindra Kumar, Col. M. Sitaram, K. Anusha. Clinical profile of patients with hypothyroidism. MRIMS J of Health Sciences. 2016; 4(2): 74-76.
10. Sharma M, Raina RK, Singh S, Raina S. Clinical, biochemical, and cytomorphological profile of lymphocytic thyroiditis: A study from a medical college in the Kangra Valley, India. Thyroid Res Pract. 2019 May;16(2):66-70.

Conflict of Interest: None
Source of Support: Nil