

Hypothyroidism in Adults Early Clinical Presentation in Relation to Age

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Abstract

Background: Hypothyroidism in adults is not a rare disease but has non-specific clinical presentation which may delay its diagnosis.

Objective: the aim of the study is to identify the presenting symptoms of hypothyroidism, their frequency & their relation to age.

Patients & Method : All adult patients > over 18 years of age who attended the consultation clinic, in Al-Hussein Teaching Hospital / Karbala, from January 2002 to December 2007 showing clinical features suggestive of hypothyroidism were sent for T3, T4 & TSH.

Results: Sixty eight patients were found to have hypothyroidism, 52 females & 16 males (F/M ratio 4.7:1). Seventy percent of the group are less than 55 yr of age, their mean age is 42.3 yr. Malaise & arthralgia were the main complaints especially in those aged 55year & over (69% & 25%) respectively while skin changes were the main early physical signs in those less than 55yr of age (26%).

Discussion: Hypothyroidism is a disease which may present in a nonspecific clinical picture such as malaise or fatigability especially in elderly or skin changes in young age group or as menstrual irregularities in young females.

Conclusion: High index of suspicion is the main initial tool for diagnosis of hypothyroidism & should be considered in any elderly patient with unexplained malaise or fatigability or in young females with unexplained menstrual irregularities. To look for other physical symptoms & signs in those patients which may mandate sending them for thyroid function test or at least only TSH level.

Keywords: Hypothyroidism, clinical presentation, elderly.

Introduction

The spectrum of hypothyroidism ranges from a hardly recognized disorder to one that is overt and life-threatening. Symptoms of hypothyroidism are usually insidious in onset and often present for 5 years or more before the diagnosis is established¹. Physicians frequently encounter patients with very mild thyroid dysfunction. Such patients are often identified through routine screening or in the course of an evaluation of common nonspecific symptoms.

Clinical manifestations of thyroid dysfunction vary considerably among patients in their character, the presenting symptom and severity. Associated symptoms and signs are often nonspecific and progress slowly. Consequently, the accuracy of clinical diagnosis is limited³.

If only the patients presenting with clear suggestive symptoms and signs are evaluated, many affected individuals will remain undiagnosed³. The best current recommendation is to maintain a low threshold for suspecting hypothyroidism, particularly in its more obscure presentations, and to reserve testing for those patients⁴. A number of symptoms and signs are well-established manifestations of hypothyroidism yet it may differ according to the age of presentation, possibly race or climate. It is recognized that the presentation of hypothyroidism is altered in the elderly in comparison with young patients in that there are (1) fewer symptoms and (2) diminished frequency of some classical signs⁵. Unlike patients with overt hypothyroidism, patients with subclinical hypothyroidism have normal serum levels of thyroxin and triiodothyronine and only mildly elevated serum thyrotropin levels

Mild hypothyroidism may be a more appropriate term for this very common syndrome. The worldwide prevalence of subclinical hypothyroidism ranges from 1 to 10 percent²

Patients & Method

In a descriptive study done in Al-Hussain General Hospital /Karbala from Jan.2002 to Dec.2007 for patients with clinical features suggestive of hypothyroidism. Patients underwent routine history and physical examination, standard thyroid function assessment including T3, T4, & TSH

Inclusion Criteria

Adult patients over 18 years with clinical feature suggestive of hypothyroidism were sent for thyroid function tests. & their results showed high TSH, low T3 & T4 or low TSH, T3 & T4 were included in this study.

Exclusion Criteria

The exclusion criteria included all cases diagnosed previously as hypothyroidism at their adult life or they were having

Congenital or juvenile hypothyroidism diagnosed at age less than 18 yr whether they are compliant on treatment or insufficiently treated.

The clinical presentation suggestive of hypothyroid states was reviewed according to a flow chart of signs & symptoms of hypothyroidism which is shown in the table number 1.

Patients with laboratory abnormalities of high TSH & low T3 & T4 also low TSH, T3 & T4 were included.

In patients with biochemical result of hypothyroidism, sign & symptom were studied according to the frequency of occurrence, relation to the age i.e. the frequency of occurrence in those below 55yr old & those 55yr or older. Using the clinical sign & symptom criteria as in table-1⁶. Any history of surgery or treatment with radioactive iodine is also taken.

Table 1: Symptom & signs which were looked for in suspected hypothyroid patients

Symptoms

- Fatigue
- Myalgias
- Constipation
- Weight gain
- Cold intolerance
- Irregular or heavy menses and infertility.
- Dyspnea,
- Numbness in the limbs or parasthesia

Signs

- Skin changes (dry, coarse, pale, yellow)
- Husky voice
- Puffiness of the face & Periorbital edema
- Bradycardia
- Delayed ankle reflex
- Stupor or coma

The lab method used is the VIDAS using the MiniVidas (BioMerieux–France) device, The assay principle combines an enzyme immunoassay competition method with a final fluorescent detection (enzyme linked fluorescent assay ELFA).

Results

Sixty-eight patients were found to have hypothyroidism, whether primary or secondary, their age ranges between 20-74 year, mean age is 42.3 year. Twelve were males & 56 females, with female to male ratio = 4.7:1

Seventy-nine percent of them (54) were below 55 yr of age & 21 % (14) were 55yr or older (figure1)

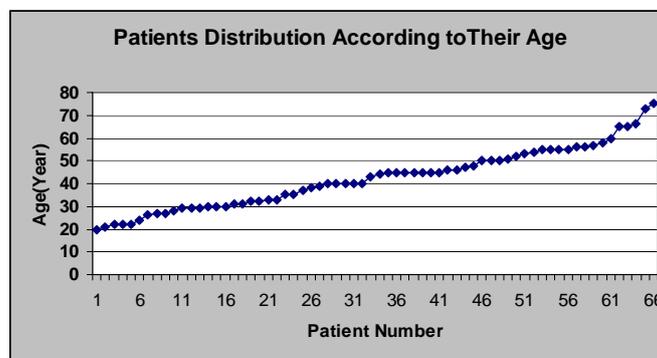


Figure 1: Patient distribution according to age

Etiologically we found that four of them had thyroidectomy, no patient has received radioactive iodine, three female had Sheehan syndrome,, one female patient had history of medical treatment for thyrotoxicosis with methimazole .

In the remaining 60 patients the etiology is possibly immunological or idiopathic & was not traced because it is not the aim of the study. Their presenting symptoms & signs are depicted according to percentage of occurrence in a decreasing order in table 1.

Also we studied the frequency of symptom per case & the results are shown in table 2

SYMPTOMS	FREQUENCY	SIGNS	FREQUENCY
Malaise	69 %	Skin changes	26 %
Arthralgia	25 %	Puffiness of the eyes	21 %
Menstrual irregularity	24 % (of the females)	Voice changes	15 %
Cold Intolerance	22 %	Leg Edema	15 %
constipation	21 %	Reflex delay relaxation phase	15 %
Cardiac(dyspnea ,angina)	12 %	Bradycardia	13 %
Peripheral neuropathy	6.5 %	Hypertension	5 %
Sinus Congestion	3 %		
Disturbed Consciousness	3 %		

Table 2: Frequency of signs & symptoms

In this study the clinical presentation is shown in table 2 according to the frequency of signs & symptoms in decreasing manner.

The relation between age & symptomatology:

Malaise was more evident in the elderly 71% (10 out of 14 elderly) patients. While it is 37% (20 out of 54 in those younger than 55yr).

Skin changes as rough, dry & pale are more in patient less than 55yr old 57% in the younger versus 44% in the old.

Two old female patients (61 & 68 year old) were brought in a state of stupor. Three patients had Sheehan syndrome & four had thyroidectomy before,

Two patients presented with feature of sinusitis and on examination they were found to have skin changes as well which raise the suspicion of hypothyroidism

Five cases had paresthesia & numbness, one of them had severe form which was disappeared 4 month after treatment with thyroxin.

TSH level lie between 0.5-60 I.U, there were no specific relation between TSH level & Type of clinical presentation.

Discussion

In this study the female :male ratio were 4.7:1 which is similar to the annual prevalence reported worldwide, ranging from 4:1⁷ to 5.1:1 survey of a randomly selected population of 2779 adults living in Wickham, Tyne and Wear⁸ with some variation depending on genetic & environmental factors. Virtually all studies report higher prevalence rates for hypothyroidism in women and with advancing age. with rates as high as 24% among women older than 60 years recruited from several senior citizens' centers and ambulatory clinics.⁷

In this study the bulk of patients who were discovered their ages were between 25-50 year which is consistent with other studies^{9,10} the explanation is that the clinical presentation of hypothyroidism is non-specific, so the diagnosis is delayed, also its diagnosis depends on several factors as patient education status, socioeconomic state, age of the patient and awareness about the disease. The main symptoms of the patient were malaise (69%), arthralgia (25%), cold intolerance (35%) & constipation (22%), the least was sinusitis & disturbed conscious, where in the Colorado study the main symptom was constipation, possibly our high roughage diet play a positive role, also cold intolerance is not so high in our patients.

The main presenting symptom especially in patients ≥ 55 yr of age was malaise. Similar studies^{11,12} also confirm that malaise & fatigability is the main presentation in the elderly. This may be one of the causes that the disease is not diagnosed earlier as these symptoms are so frequently found in the elderly & so non specific. Skin changes as rough, dry & pale skin, as well as Periorbital edema & to a less extent voice changes are the main physical sign in the younger age groups. Menstrual irregularities were found in 24% of our female patients it makes the female patient visit her gynecologist & if the possibility of the diagnosis is not considered it may be missed. This had happened with eight of our female patients in whom their skin changes led us to interrogate them about menses & we found that they had either menorrhagia or amenorrhea in those with Sheehan syndrome.

Conclusion

Overt hypothyroidism is not a rare clinical condition which may present with nonspecific clinical picture ranging from general malaise, fatigability & joint pains in the elderly to skin changes or menstrual irregularities in the young patients. So its diagnosis may be missed for long period till the full-blown picture of hypothyroidism appears which may take months & sometimes years for which the patient did not receive the proper treatment. So high index of suspicion is needed for the early diagnosis if any of the above signs or symptoms is found without clear underlying etiology.

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