Difficulty in diagnosing hypothyroidism -- a case report

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Abstrak

Hipotiroidisme adalah salah satu penyakit metabolik endokrin yang dapat mengenai semua umur. Pada orang dewasa, gejala yang ditimbulkan seringkali tidak spesifik sehingga diagnosis hipotiroidisme kadang terlewatkan. Dalam tulisan ini dilaporkan kasus hipotiroidisme terabaikan pada orang dewasa yang tidak terdeteksi sebelumnya, karena pasien datang dengan keluhan adanya kelainan berupa kulit kering bersisik dan hiperpigmentasi pada ekstremitas terutama di bagian akral, lengan bawah dan tungkai bawah.

Abstract

Hypothyroidism is a metabolic disease of all ages. In adults, the signs are non specific, and the diagnosis sometimes missed. A case of undetected adult onset hypothyroidism in a 51-years-old woman who came to seek medical treatment for exfoliative dry and hyperpigmentation which affected her extremities, especially at the acrals, is being reported.

Keywords: *hypothyroidism, adult-onset, diagnosis, exfoliative dry and hyperpigmentation*

Hypothyroidism is a clinical and biochemical syndrome caused by decreased production of thyroid hormones.[1] Thyroid hormone thyroxine (T4) influences almost every system of the body. Thus, thyroxine deficiency manifested in a broad range of symptoms and signs, and the patient may present in a variety of medical settings.[2]

The most common cause of hypothyroidism is Hashimoto's thyroiditis, although in some developing countries, iodine deficiency is more common.[3] Widely spread all over the world, the disease can affect people of all ages, presenting different manifestation for each age group.

This disease is not uncommon in adults. In the UK, the prevalence of overt hypothyroidism in adult is 1.4 % in women and less than 0.1 % in men. Yet, hypothyroidism in adults has an insidious onset with a range of non specific symptom which can delay the diagnosis by months or even years. Clinical diagnosis is hard to make at the extreme of age, especially in the elderly and in infancy.[2] Tjokroprawiro et al reported that only 2-3 cases of hypothyroid is detected per year in Dr. Soetomo general hospital (RSUD Dr. Soetomo).[4] Following is a case report of prolonged undetected hypothyroidism in an elderly woman.

CASE REPORT

A 51-year-old woman came to a family medicine clinic with skin disorders, which had been experienced for three months. At first, the skin disorder was confined to the acrals, but then expanded to the lower limbs and lower arms. She had been using topical traditional medicine, but there was no improvement.

Her history of illness revealed a 17 kilogram weight gain since the last 4 years. This weight gain was not supported by increased intake; the patient only have 2 meals a day. Defecation frequency decreased to once every 10 days. She also complained of hoarse voice and blurring vision and difficulties to do daily chores, mostly because of feeling weakness and exhausted. There was also paresthesia of the acrals.

Further history taking of past illnesses revealed that the patient had been treated for tuberculosis for a year

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about 15 years ago. She also had a habit of using oral traditional medicine (jamu).

Physical examination showed an elderly woman with severe edema, puffy face, periorbital swelling and thickened lips. The hair was coarse and dry and the conjunctivae was anemic. Dry and scaly skin was a prominent feature. The skin at the lower limbs and arms was dry, exfoliating with epidermal hyper-pigmentation, especially on the acrals. Shifting dullness of the abdomen is dubious, while physical examination of the heart and lung was within normal limits. During the examination, the patient showed hypothymic expression and cried sometimes.

The routine laboratory findings which included analysis of the peripheral blood, urinalysis, blood sugar, serum ureum and creatinin, and liver function test appeared normal, except that there was a macrocytic anemia and a slight increase in serum Aspartate Transaminase (AST) and Alanine Transaminase (ALT) levels which was 96 U/L and 44 U/L. Radiography of the thorax indicated a slight heart enlargement. To confirm the presence of ascites, an ultrasonography of the abdomen was performed, and the ultrasonograph proved that there was no intraperitoneal fluid, just a hypoechoic picture suggesting the intestines full of gas and a liver normal in dimension and structure. The serum levels of Thyroid Stimulating Hormone (TSH) and Thyroxine (T4) was then examined, and the result revealed a high serum TSH level (79 µg/µl) and low T4 level (<1 µg/dL).

The patient was then treated with oral L-thyroxine starting with 0.25 mg per day for the first 2 weeks, followed by a higher dosage until the therapeutic respons is reached.

DISCUSSION

Hypothyroid is a systemic disease presenting with a broad range of symptoms and signs reflecting the influence of thyroxine on almost every system of the body. The symptoms may be so mild that the diagnosis is missed. In this case, the insidious onset and mild symptoms was the reason why the patient did not come to seek medical service at first.

There were several differential diagnosis for the patient. Edema and history of tuberculosis and oral traditional medicine, supported by the laboratory findings of AST and ALT led us to suspect a chronic hepatitis, though there was no history of acute hepatitis such as jaundice, fever, nausea and bilirubinuria. With the ultrasonograph showing no intraperitoneal fluid and a normal liver, this diagnosis was put aside.

Figure 1. Facial edema with marked periorbital puffiness and thick lips

Figure 2. Profile of the patient with abdominal distention

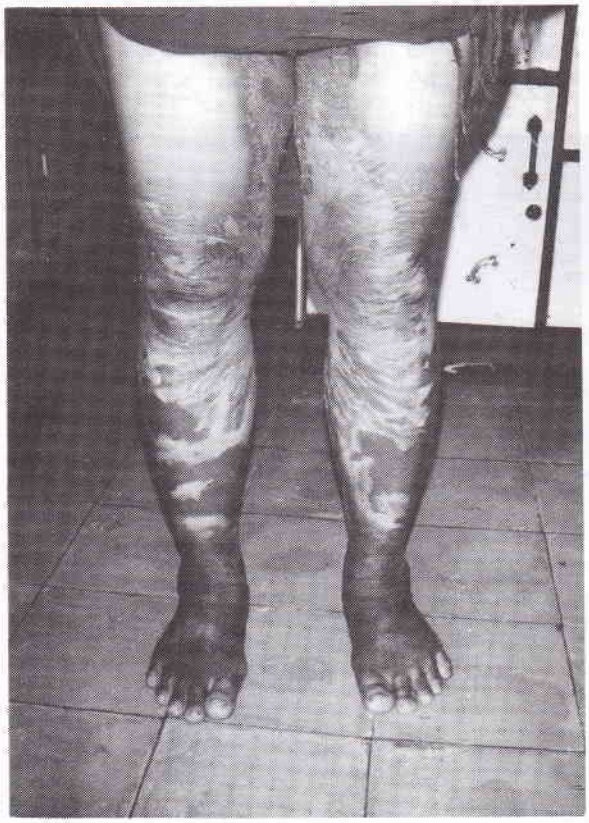

Figure 3. Exfoliative dry skin and hyperpigmentation on the lower limbs that led the patient to the clinic at the first place

Note : All pictures were taken before therapy

Another differential diagnosis was vitamin B deficiency. Macrocytic anemia, edema and skin disorder was compatible with vitamin B deficiency, but from food recall, vitamin B intake was adequate. At first, chronic nephritis and nephrotic syndrome was also considered, because these diseases may simulate myxedema, particularly due to the facial puffiness, periobital swelling and pallor, but the laboratory results were not supportive regarding to the normal urinalysis report, serum ureum, creatinine and proteins.

The fact that no ascites though a severe edema developed, led to the suspicion of hypothyroidism. All other symptoms such as hoarse voice, weakness, constipation, and weight gain supported the diagnosis. To confirm the diagnosis, the serum levels of Thyroid Stimulating Hormone (TSH) and Thyroxine (T4) was examined. The high serum TSH level and low T4 level, suggested that this case was a primary hypothyroidism.[5] The mechanism responsible for it most likely is progressive destruction of the thyroid gland due to autoimmune mechanism. Antithyroid antibody was not determined in this case, because it was unnecessary to diagnosis.[6,7]

Dry, exfoliating skin in this patient was caused by prolonged cutaneus vasoconstriction. The changes are more prominent in the distal due to lack of subcutaneus tissue.[8] Hyperpigmentation of the skin, particularly of the epidermis might results from the usage of topical traditional medicine, which may contain heavy metals or other material that induced epidermal hyperpigmentation.[9]

The macrocytic anemia found in this patient was directly associated to hypothyroidism. This can occur because of folic acid or vitamin B12 deficiency. Pernicious anemia occurs in 10 % of hypothyroid patients.[9]

Signs and symptoms of hypothyroidism often imitate those of other disease, such as chronic nephritis, nephrotic syndrome, depression or normal process such as aging. Adult onset hypothyroid usually causes an insidious development of various symptoms and signs, which accurate onset often cannot be specified by the patient or even the physician who is seeing the patient routinely.[8] Therefore a physician should be aware of the possibility of this disease, especially in older women.

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