



PERICARDIAL EFFUSION DUE TO HYPOTHYROIDISM – A CASE REPORT

General Medicine

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ABSTRACT

Hypothyroidism is an endocrine disease with multiorgan involvement. It can be asymptomatic or subclinical or can present with fatal complications. One of the significant and less often seen complications is pericardial effusion. Large effusions may not correlate with severity of cardiovascular compromise. Medical therapy over surgical intervention is appropriate if no evidence of cardiac tamponade. Here we report a case of incidentally detected pericardial effusion in a 69-year-old woman, which led to the diagnosis of hypothyroidism. **Conclusion** With early cardiac assessment and adequate thyroid replacement therapy, pericardial effusion in hypothyroidism can be reversible at an early stage.

KEYWORDS

Hypothyroidism, Pericardial effusion

INTRODUCTION

Hypothyroidism, an endocrine disorder characterized by low or absent functional thyroid hormone, is diagnosed when decreased levels of thyroid hormones cause an increased secretion of thyroid-stimulating hormone (TSH) (1). The most commonly reported symptoms of hypothyroidism are weight gain, constipation, cold sensitivity, fatigue, and dry skin. Less common signs include myopathy, carpal tunnel syndrome, and hoarseness of voice (8, 9). Hypothyroidism, having the potential to affect any organ system, can be complicated by serious pathologies requiring timely intervention.

Case Report

A 69 year old female known case of hypertension, with past history of traumatic brain injury, underwent decompressive craniotomy came with alleged history of found unconscious at home. On evaluation found to have anaemia, Acute SAH. On examination she had puffy face, tight fingers, she gave history of constipation and bilateral lower limb swelling. The swelling of lower limb was insidious onset and gradually progressive. There was no drug history and no history of similar illness in the past, or on any other family members. On examination, her pulse rate was 54 beats per minute, regular, normal in volume. Her blood pressure was 110/60 mm of Hg, respiratory rate was 16 per minute, and she was afebrile. She had bilateral pitting oedema over lower limbs along with facial puffiness. There was hoarseness of voice. No neck swelling. All the systemic examinations were normal. On laboratory investigation. Complete blood count (CBC) showed anaemia with HB 8.0, renal function test (RFT), liver function test (LFT), along total serum protein and albumin were normal and, her TSH values were very high, about 116, low triiodothyronine (T3) and T4.

Ultrasonography (USG) of the neck showed small thyroid gland with no focal lesions. Serum anti-TPO antibodies were high. The lipid profile demonstrated hypertriglyceridemia of 213 mg/dl, Total cholesterol of 380 mg/dl and LDL of 293. His serum Vitamin D, calcium, and phosphorus level were within the normal range. Fever work up was negative. Anaemia evaluation showed normocytic

normochromic anaemia with normal ferritin and transferrin saturation. Stool occult blood was negative. Electrocardiogram (ECG) revealed low voltage complexes with sinus bradycardia. Her Chest x-ray showed cardiomegaly, suspected pericardial effusion. Cardiology consultation done – Echo showed pericardial effusion with mild Left ventricular dysfunction (fig 1). Started on T Thyronorm 200 mcg followed by 100 mcg once daily. Echo reassessed and found to have effusion get decreased.

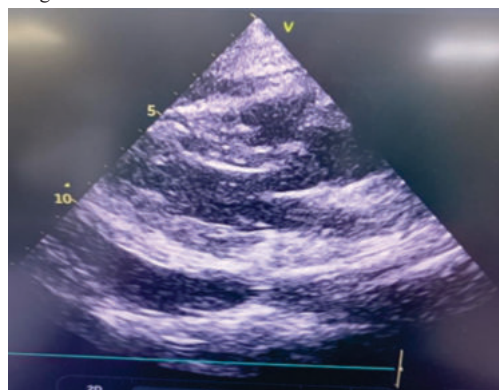


FIG (1) Echocardiography showing pericardial effusion.

DISCUSSION

In our case patient presented with an episode of loss of consciousness and we incidentally diagnosed pericardial effusion secondary to hypothyroidism. Pericardial effusion is described as the abnormal accumulation of fluid within the pericardial cavity. Such liquid can be either exudate, transudate, pyopericardium, or hemopericardium (2). Among the several known aetiologies of pericardial effusion, including malignancy, infection, heart failure, radiation, trauma, connective tissue disorder, iatrogenic cause, and metabolic causes, idiopathic pericarditis, usually of viral origin, remains the common

cause of pericardial effusion, (5,6). Metabolic disorders, such as hypothyroidism, are considered one of the less common causes of pericardial effusion (3). Hypothyroidism is a prevalent endocrine disease worldwide. It can be asymptomatic or present with a wide range of non-specific symptoms that can delay the diagnosis even when the diagnosis is straightforward with simple laboratory tests (4). The pericardial effusion in hypothyroidism is attributed to the increased capillary permeability and reduced lymph drainage in the pericardial cavity, resulting in accumulation of fluid in the pericardial space (7). The diagnosis is generally made when pericardial disease is associated with an elevated thyroid stimulating hormone level, and other causes are excluded. Patients with hypothyroidism tend to have pericardial effusion detected by echocardiography up to 30% [10]. Normocytic normochromic anaemia can occur in hypothyroidism. Anaemia in hypothyroidism can result from bone marrow depression, decreased erythropoietin production or with concomitant iron deficiency. During the evaluation process, pericardiocentesis is not always necessary to establish the cause of the effusion. From clinical history and other diagnostic tests, we could make out the diagnosis. Management consist of thyroid hormone replacement therapy and consider pericardiocentesis in case of tamponade.

CONCLUSION

Hypothyroidism with pericardial effusion is a relatively rare occurrence in clinical setting. , it can occur in mild cases too, which when unnoticed can be fatal. Since the best diagnostic method is echocardiography. Thyroid hormone replacement therapy is the best option for treatment. With it, the effusion resolves in one to 15 months after being initiated. Pericardiocentesis is only performed if cardiac tamponade is present.

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