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Case Report

Myxoedema ascites-Rare presentation of long standing hashimotos thyroiditis

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ABSTRACT

Introduction: Hypothyroidism is among the common clinical conditions which are encountered in the medicine OPD. An autoimmune disorder called Hashimoto's thyroiditis is a common cause for hypothyroidism followed by over response to hyperthyroidism treatment, radiation therapy, medications, congenital disease etc. Patients can present with sensitivity to cold, weight gain, constipation, menstrual abnormalities, and slow mentation with irritability, dry skin, hair loss, and fatigue. Rarely, uncontrolled hypothyroidism can present as pericardial effusion, pleural effusion and ascites. Ascites as the feature of hypothyroidism is uncommon and only less than four percent of patients with hypothyroidism /develop ascites. As it is rarely presented as ascites so its diagnosis is delayed but once it is diagnosed, treatment leads to clinical improvement.

Case Report: A 20-year-old female presented to medicine OPD with non-tender abdominal distension, vomiting. She was a known case of Hashimoto's thyroiditis an autoimmune disorder; however, she was not compliant to thyroid medication. All necessary investigations were carried out to rule out the cause for ascites. With all the negative reports including imaging and supportive fluid cytology we attributed the symptoms to uncontrolled hypothyroidism as the patient was non-compliant to the thyroid medications. Also the picture of macrocytic anaemia in our patient supported the diagnosis. She was started on levothyroxine and was counselled. On a follow-up visit there was dramatic improvement of all the symptoms including ascites and her TSH was normal-2.017.

Discussion: Ascites as a symptom of hypothyroidism is rare and its pathophysiology is not fully understood however there are few theories and studies in the past which do explain ascites as the manifestation of hypothyroidism.

Conclusions: Severe uncontrolled hypothyroidism though uncommon but can cause ascites. Being a reversible cause of ascites, it becomes important for clinicians to take hypothyroidism as one of the differential diagnosis for ascites. Our case supports the need of taking hypothyroidism as one of the cause, as it is easily treatable and patient can show dramatic improvement.

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1. Introduction

Hypothyroidism is among the common clinical conditions which are encountered in the medicine OPD. An autoimmune disorder called Hashimoto's thyroiditis is a common cause for hypothyroidism followed by over

response to hyperthyroidism treatment, radiation therapy, medications, congenital disease etc. Patients can present with sensitivity to cold, weight gain, constipation, menstrual abnormalities, and slow mentation with irritability, dry skin, hair loss, and fatigue. Rarely, uncontrolled hypothyroidism can present as pericardial effusion, pleural effusion and ascites. Ascites caused by hypothyroidism is rare, occurring

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in less than four percent of hypothyroid patients. As patients rarely present with ascites its diagnosis is delayed. As it is a reversible cause its treatment can resolve of all the symptoms.¹⁻⁶

2. Case Report

A 20-year-old female presented to medicine OPD with non-tender abdominal distension, vomiting. She was on treatment for Hashimoto's thyroiditis; however, she was not compliant to thyroid medication. General examination revealed normal vital signs with dry skin. Systemic examination revealed no positive findings except presence of ascites. On per abdominal examination no organomegaly was appreciated. The initial investigation revealed haemoglobin of 9.5g/dl, platelets $210 \times 10^3/\mu\text{L}$ and white blood cells $12.66 \times 10^3/\mu\text{L}$ and peripheral smear finding reveals the macrocytic anaemia. The biochemical parameters show AST- 28 units/L and ALT- 27 units/L. The lipid profile revealed elevated triglycerides -116 mg/dl and total cholesterol- 142mg/dl. Amylase-67 U/L and Lipase-9 U/L. The thyroid stimulating hormone (TSH) of- >150 units/ml is supportive of non-compliance of the patient towards the treatment.

Diagnostic and therapeutic ascetic tap was done. The fluid analysis showed it to be an exudative fluid with high protein levels- 4.7 g/dl, albumin 3.1 g/dl and SAAG- 0.9. The TLC count was $112/\mu\text{L}$ with 20% neutrophils, 80% lymphocytes and glucose- 125 mg/dl.

A thorough investigation was done to rule out all the possible causes of ascites. Cardiac evaluation was done. Viral markers to rule out hepatitis was done. Malignant causes were also ruled out by detailed imaging. CT abdomen was done as shown in Figure 1. After batteries of investigation the cause of ascites was attributed to uncontrolled hypothyroidism. Patient's consent was taken. She was started on levothyroxine and sent back to home. On the follow up visits she showed dramatic improvement of all the symptoms including ascites.

The CT abdomen revealed gall bladder with edematous and thickened wall, small bowel loops mildly dilated and distended with fluid and gases with no evidence of mass and stricture in transition zone likely s/o sub acute intestinal obstruction, wall of rectum appear edematous and thickened with mild surrounding fat stranding? Infective/inflammatory, moderate free fluid. Surgery opinion was taken- As patient was taking orally and passing flatus and stool so managed conservatively.

3. Discussion

Patients of hypothyroidism usually presents as intolerance towards cold, menstrual irregularities, constipation, weight gain, slow mentation and fatigue. Rarely severe, uncontrolled hypothyroidism can manifest as pericardial



Fig. 1: CT abdomen revealing ascites

effusion, pleural effusion and ascites.⁷ The pathophysiology of hypothyroidism-induced ascites is still not understood. There are certain theories and studies which do try to explain the reason behind ascites in hypothyroidism.⁷ Parving et al., reported that low levels of thyroid hormones cause increase in capillary permeability leading to extravasation of plasma proteins into the extravascular compartment.^{1,3,6,8} One more theory explains the ascites in hypothyroidism as a direct hygroscopic effect of hyaluronic acid found in small quantities in patients with hypothyroidism-induced ascetic fluid. It can also interact with albumin forming hyaluronic acid-albumin complexes that prevent lymphatic drainage of extravasated albumin which further explains the ascites.^{4,5} Other possible explanations could be diminished free water clearance due to excess antidiuretic hormone (ADH) production.^{2,9} As per certain studies low nitric oxide levels and high VEGF (vascular endothelial growth factors) levels are also responsible for ascites.

4. Conclusions

Although hypothyroidism is a common condition but its presentation as ascites is rare. Being a reversible cause of ascites which is easy treatable by the supplementation of thyroxine hormone orally its diagnosis in early course of disease can improve the patient's condition. We are presenting this case report to highlight the importance of keeping hypothyroidism as one of the differential diagnosis while evaluating the causes for ascites.

5. Acknowledgment

None.

6. Conflict of Interest

The authors declare that there are no conflicts of interest in this paper

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None

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