

PLEURO-PERICARDIAL EFFUSION AS SOLE PRESENTATION OF HYPOTHYROIDISM

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ABSTRACT

Effusions either pleural, pericardial or ascites have been a rare manifestation of hypothyroidism but it is extremely rare for hypothyroidism to present solely with silent pleural and pericardial effusions incidentally found while being evaluated for other purposes without any other symptom or clinical sign. We present here a case of 25 years old female who was incidentally found to have bilateral pleural and massive pericardial effusion. Following complete investigations cause found was hypothyroidism and treatment started with levothyroxine to which the patient responded well.

Key words: Hypothyroidism, Pericardial Effusion, Pleural Effusion.

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INTRODUCTION

Hypothyroidism commonly presents with cold intolerance, constipation, weight gain, dry & coarse skin, hair loss. Common cardiac manifestations of hypothyroidism are bradycardia and diastolic hypertension. Mild pericardial effusion is reported in around 30% of patients with hypothyroidism but it is very unusual to found massive but silent pericardial and pleural effusion as sole presentation of hypothyroidism. However in our society tuberculosis is an important cause of pericardial effusion so it is important to complete work up for other causes especially for tuberculosis before labeling hypothyroidism as sole cause of hypothyroidism and starting treatment.

CASE REPORT

25 years old female was admitted in gynae ward of CMH Lahore for dilatation and curettage following spontaneous first trimester abortion where she was found to have low voltage ECG during her preanesthesia evaluation. She was referred to Army Cardiac Centre for evaluation. She was asymptomatic and there was no history of chest pain, dyspnoea, orthopnoea or any other complaint and her past history too was insignificant for everything except the miscarriage

for which she was admitted. Her ECG was low voltage ECG and revealed bradycardia. Chest X-ray revealed globular heart and bilateral blunting of costophrenic angles. 2 D echo showed massive pericardial effusion measuring 35 mm posteriorly and 23 mm anteriorly causing diastolic collapse of RA. Ultrasound chest revealed bilateral pleural effusion more on left side measuring 23 mm. She was shifted to CCU and pericardiocentesis planned as the echocardiographic findings warned about impending tamponade. Fluoroscopic guided pig tail catheter passed and 250 ml of pericardial fluid drained which was sent for routine examination, culture & sensitivity, gram stain, ZN stain, AFB culture, Cytology and ADA levels. Meanwhile her pleural tap was done and was also sent for the same investigations. Blood samples for CBC, LFTs, RFTs, ANA, Anti dsDNA, TSH, urine complete examination and spot urine for protein creatinine ratio was sent. All investigations were normal except for Thyroid Function Tests which revealed TSH > 75U/L and markedly reduced fT4 and fT3. Tab thyroxin 150 mcg (50 mcg 3x OD) started and patient was discharged after 25 days with thin rim of pericardial effusion on echocardiogram and was called for followup after 01 month.

DISCUSSION

Hypothyroidism has been considered a remote cause of pleural effusion, pericardial

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effusion and ascites but it is rare to find any of these as sole presentation of hypothyroidism. It is a defect of hypothalamic-pituitary axis usually diagnosed by low T4 and high TSH levels. Clinical features of hypothyroidism include easy fatigability, cold intolerance, constipation, weight gain, absent deep tendon reflexes, conduction abnormalities, pleural effusion & pericardial effusion.

Normal amount of pericardial effusion is 10-15 ml which is produced by ultra filtration of plasma. In hypothyroidism synthesis of albumin is decreased along with increased capillary permeability of albumin. Therefore trans-capillary escape of albumin from intravascular compartment leads to decreased intravascular fluid volume, increased interstitial fluid volume

& impaired lymphatic drainage leading to third space fluid accumulation¹. Low voltage ECG, T wave flattening and T wave inversion are ECG abnormalities usually seen in pericardial effusion and revert to normal after initiation of hormone replacement therapy before biochemical correction of hypothyroidism². Therefore it is mandatory to screen all the patients presenting with unexplained pericardial effusion for hypothyroidism.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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