



## The Swinging Heart: A Case Study

*Neha<sup>a</sup>, Lovepreet Kaur<sup>b</sup>*

<sup>a</sup>M.Sc. (N)2<sup>nd</sup> year, Akal College of Nursing, Eternal University

<sup>b</sup>Nursing Tutor, Akal College of Nursing, Eternal University, HP

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### ABSTRACT

Pericardial effusion alludes to an unusual accumulation of fluid in the pericardial cavity. The two-part membrane that encircles the heart is called the pericardium. It is made up of an outer fibrous connective membrane and a two-layered interior serous membrane. The two layers of serous membrane encompass the pericardial cavity, which is a potential gap between the two layers. This pericardial area contains a little proportion of pericardial fluid. Typically, the fluid's volume ranges from 15 to 50 mL. Metabolic, neoplastic, traumatic, inflammatory, infectious (pericarditis), and inflammatory diseases are among the causes of pericardial effusions. An echocardiography, a chest X-ray, and an MRI are the most often utilised diagnostic tools, however an EKG and a CT scan are also regularly employed. Numerous diagnostic and therapeutic applications for pericardiocentesis abound (form of treatment).<sup>1</sup>

Keywords: Pericardial effusion, Traumatic, Metabolic, Neoplastic

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### 1. INTRODUCTION

Pericardial effusion is another name for the swinging heart. A pericardial effusion is a deposit of fluid that occurs between the pericardium, the heart's lining, and the heart underneath it. At autopsy, pericardial effusions were present in up to 20% of cancer patients, but only around 30% of those patients would have had symptoms as a result of their effusions. Some potential pericardial effusion causes are Rheumatoid arthritis and lupus are two examples of autoimmune diseases.<sup>1</sup> If pericardial effusion symptoms do materialize, they may include: Breathing problems or shortness of breath (dyspnea), breathing discomfort while resting flat, chest discomfort, commonly on the left side of the chest or behind the breastbone, chest enlargement, a sense of faintness or dizziness, swelling in the legs or abdomen. Inflammatory drugs are used to treat pericardial effusion.<sup>2</sup> Pericardial effusion tests to diagnose echocardiogram, electrocardiogram or EKG, chest X-ray, CT and MRI scans. Open heart surgery, pericardiectomy, and fluid drainage are additional drainage procedures.<sup>3</sup>

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### 2. CASE PRESENTATION

A 50 year old male employee visited IGMC, Shimla in CCU unit with the complaints of shortness of breath, cough, chest pain moderate to severe intensity, he was experiencing these symptoms from last 2 months. On physical examining the patient it was found muffled sounds and decrease activity pattern with breathlessness, spo2 was 82% and Blood pressure measured that is (130/72mmHg).

#### *General Examination*

Weight: 65

Height: 155cm

BMI: 27.1Kg/m<sup>2</sup>

#### *Physical activity:*

Because of him dyspnea and weakness, he is unable to engage in proper physical activity and carry out her daily work routine at home.

#### *Past Medical History*

He had been suffering from hypertension for the past three years for that he had been taking prescribed medication (tablet Amlodipine to reduce high blood pressure) from last three years.

#### *Special investigations*

CBC, chest X-ray, cardiac CT scan, ECG, echocardiogram, cardiac catheterization, pericardiocentesis was done and the investigations revealed that patient is suffering from pericardial effusion

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### 3. TREATMENT

Aspirin 75mg BD  
Ibuprofen 400mg OD  
Colchicine 20 mg OD  
Prednisone and fluid drainage.

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### 4. CARE PLAN

Eat a healthy diet- take green leafy vegetables and fresh fruits, whole grains and vitamins, while limiting oily food.  
Deep breathing exercises should be done on a regular basis to help raise oxygen levels and lower blood pressure. Additionally, it aids in the creation of a positive feeling.  
Avoid smoking and all tobacco products, to reduce the risk of Lung Cancer.

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### 5. OUTCOME

After the cardiac CT procedure, patient diagnosed with pericardial effusion. Patient was advised to take the prescribed medications properly. Patient was advised to visit hospital after 15 days for follow up.

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### 6.DISCUSSION

Blood or volume of liquid can build up in the space between the heart and the pericardium sac, which is known as a pericardial effusion. Malignant and non-malignant reasons can both contribute to pericardial effusion. The recognized causes of effusions include neoplasia, infection, congestive heart failure, iatrogenicity, radiation, trauma, connective tissue disorders, pericardial damage, and metabolic reasons such uremia and hypothyroidism. Cough, chest discomfort, dyspnea, and orthopnea are some of the signs of pericardial effusion.<sup>4</sup> It may be necessary to rule out further causes, such as myocardial infarction, collapsed lung, Pneumothorax, acute Pericarditis, pneumonia, and esophageal rupture, in patients who report with dyspnea or chest discomfort.<sup>4</sup> Electrocardiography (ECG) and a chest x-ray are two initial examinations. A needle and catheter were used for Pericardiocentesis to aspirate fluid from the pericardial cavity. In addition to analysing the fluid, this method also has the potential to alleviate symptoms, especially in patients with hemodynamic compromise. An echocardiography is typically used to guide pericardiocentesis in order to spot the precise location of the effusion and select the best puncture site to reduce the risk of complications.<sup>5</sup>

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