

# Idiopathic Pulmonary Vein Thrombosis, Case Report

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**Abstract:-** Pulmonary vein thrombosis is a rare entity, however it requires high clinical suspicion to be diagnosed due to lack of specific symptoms. Clinical presentation ranges from silent event and incidental finding to fatal event and end organ damage. Early diagnosis is essential to prevent systemic complications. [1]

**Keywords:-** Idiopathic , Pulmonary vein , CT angiogram.

## I. INTRODUCTION

We describe a case of young female with multiple comorbidities who presented with chest pain and multiple episodes of haemoptysis.

## II. CASE REPORT

A 55-Year-old female known to have diabetes mellitus type II complicated by retinopathy and nephropathy, hypertension, morbid obesity with BMI of 40 kg/m<sup>2</sup> , end-stage renal disease on regular haemodialysis for two years duration. History of multi dialysis access failure and one episode of treated line related right sided infective endocarditis one year prior to her presentation.

Brought to our hospital with a complain of two haemoptysis episodes of bright red blood with clots, the amount was estimated to be around a total of 20-30 ml each episode, combined with Left side pleuritic chest pain. She denied any history of dyspnoea, fever, recent infection, surgery, or intervention. No other systemic symptoms were reported. Her social History does not illustrate any illicit drug usage, smoking or alcohol drinking and her Family

History is clear from hypercoagulability diseases or predisposing rheumatological conditions.

Vital signs upon presentation were stable with a heart rate of 92 bpm, blood pressure 112/72 mmHg, respiratory rate 19 per minute, and oxygen saturation of 96 % room air.

Cardiovascular and chest examination were normal. Rest of physical examination was unremarkable with no noticed rashes or scars apart from previous sites of dialysis line insertion, however right femoral central line was noticed with no signs of active infection.

Initial laboratory investigation indicated

WBC of : 7 k/uL stable Hgb Level of 11.8 g/dL and normal Platelets count 206 Bill/L

Her renal function test was within her baseline with a Bun of 60 ,Cr of 10.49 and normal electrolytes ( Na : 135 K : 4.6 Cl : 101 ).

Her inflammatory markers and coagulation profile were within normal range

ESR : 24 mm/hr CRP : 0.17 mg/dL and Pt : 32 sec PTT : 13.3 sec and negative Troponin: 0.005

Chest x-ray was unremarkable while chest CT angiography, which was done to rule out septic emboli, showed Left lower lobe pulmonary vein filling defect likely representing left lower lobe pulmonary vein thrombosis. (Figure 1)

Echocardiography was negative for thrombus or vegetation.

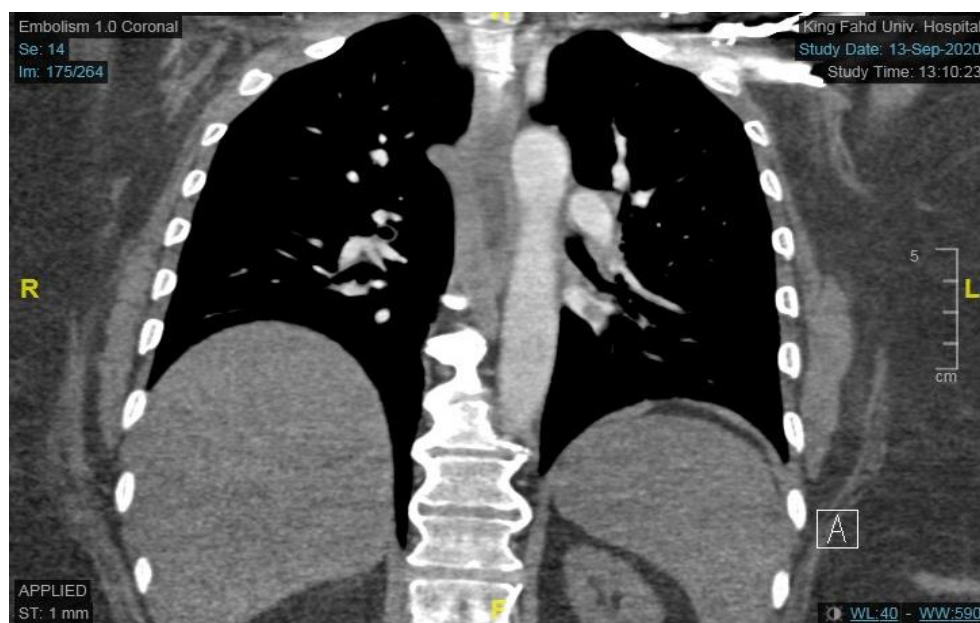


Fig. 1: Chest CT angiogram showing left pulmonary vein filling defect.

Patient was investigated further to promote the predisposing factor of her current diagnosis. This workup included Serology for Vasculitis (ANA ,C-ANCA, P-ANCA) , Thrombophilia workup (JAK2 V617F mutation , Factor V and II assay ,antiphospholipid syndrome, Anti-thrombin III level , protein C and S Levels ) And malignancy workup (Tumour markers , CT CAP . Mammogram and endocervical pap smear). All workups came back negative and No identifiable cause was determined to be the underlying culprit, for which patient was labelled to have idiopathic pulmonary vein thrombosis.

Patient was started initially on Heparin infusion then shifted to oral anticoagulation warfarin with target INR 2-3 Sec. Five days later and before discharge Chest CT angiogram was repeated and revealed a regression of previously seen thrombus.

### III. DISCUSSION

Idiopathic pulmonary vein thrombosis is extremely rare entity with unknown incidence as most cases are exist as case reports. This could be due to sufficient venous collateral networks that drain the lungs. Despite this fact early recognition is extremely important and lifesaving to prevent systemic end organ damage [3]. Clinical presentation for pulmonary venous thrombosis is nonspecific and needs high clinical suspicion for diagnose. However most reported symptoms are chest pain, cough, shortness of breath and haemoptysis.

Aetiology for pulmonary venous thrombosis can be classified into post-operative and non-post-operative.[2]Causes For the non-post operative are mainly infection, Malignancy, congenital malformation, mitral valve stenosis or idiopathic. Up to our knowledge this case represents the 15th incidence of Idiopathic pulmonary vein thrombosis. [5]

Since clinical presentation and physical examination along with simple chest x-ray cannot Diagnose pulmonary vein thrombosis, higher modalities of imaging are required. Chest CT angiogram, pulmonary angiogram, Chest MRI and transoesophageal ECHO. [4]

Treatment of Pulmonary vein thrombosis can be achieved by antibiotic, anticoagulation or even thrombectomy. Systemic anticoagulation usually is usually initiated. most of previously reported cases were treated with Warfarin, Dabigatran and rivaroxaban, interestingly One case was reported to be treated successfully with apixaban in 2021. [5]

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