SEPTIC PULMONARY EMBOLISM WITH TRICUSPID VALVE ENDOCARDITIS IN A CASE OF INTRAVENOUS DRUG ABUSER

Dr Gowri Shankar S (Junior Resident)[1], Dr Suresh Kumar[2], Prof Dr Srinivasan R[3]

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Abstract

Septic pulmonary embolism(SPE) is a highly morbid disease and difficult to diagnose without clinical suspicion. We presenting a case of young male from rural India with septic pulmonary embolism and infective endocarditis. On repeated provoking he revealed previous history of intravenous drug abuse and also came from broken family background . Patient improved clinico radiologically after broad spectrum antibiotics and finally we referred him to psychiatric rehabilitation to prevent further recurrence.

Keywords: Septic pulmonary embolism, Infective endocarditis, Intravenous Drug abuser

[1,2]Department of respiratory medicine, Meenakshi Medical College Hospital & Research Institute Enathur, Kanchipuram, Tamil Nadu-631 552
[3]Meenakshi Academy of Higher Education and Research, Chennai

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1. Introduction

Septic pulmonary embolism (SPE) is an uncommon disorder of high morbidity with insidious onset and difficult to diagnose without clinical suspicion[1]. Evolving pulmonary lesions in presence of potential embolic source and extrapulmonary embolic manifestations clinches diagnosis easily.

Case Report

30-year male from rural Kanchipuram, driver by profession admitted with fever and chills, pleuritic chest pain and breathlessness for past 1.5 months. Patient had two episodes of pneumonia in the past 4 months.

On provoking he revealed that he smoked ganja and used to take iv drugs (heroin, Chlorpheniramine maleate & talc) for the past 9 months. He came from broken family and he had multiple sexual partners.

Fig 1 superficial thrombosed vein

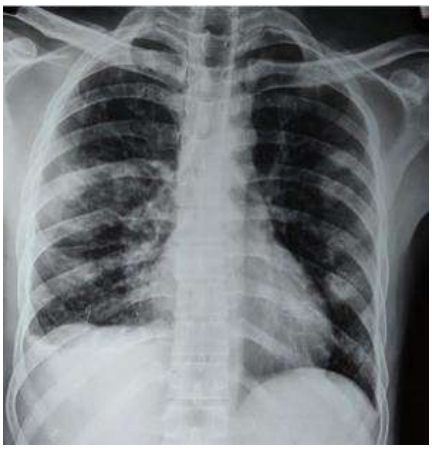

Fig 2 Chest skiagram showing bilateral nodular opacities

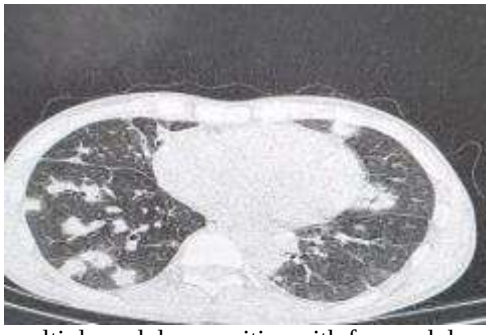

Fig 3 CT Chest showing Bilateral multiple nodular opacities with few nodules showing central air lucencies

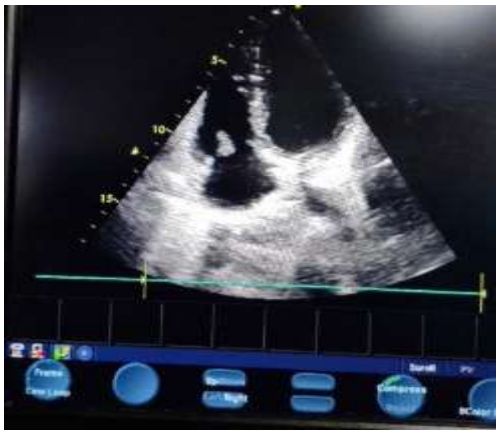

Fig 4Tricuspid valve vegetations

On examination he had thrombosed vein in left forearm. HRCT chest showing bilateral multiple nodules with few nodules shows cavitation. ECHO showed tricuspid valve vegetations. Repeated blood culture results were negative. HIV serology was negative. Patient responded clinico-radiologically after prolonged broad-spectrum Intravenous antibiotics including vancomycin, aminoglycosides and carbapenems.

2. Discusion:

SPE is a rare but serious disease .in terms of geographical distribution , SPE has been reported from densely populated with advance medical resources which may be related to the technologies required to diagnose SPE as well as risk factor for SPE.

The common cause for SPE Include Intravenous drug abuse ,Infective endocarditis ,Septic Thrombophelbitis,Suppurative angina , Peridontal abcess, Purulent Infection of Skin and Soft Tissue and Intravascular Device. The clinical features of SPE are non –specific and includes fever dyspnoea and cough

O'Donnell et al observed 10 fold risk of Community acquired pneumonia in intravenous drug user and also increased risk of tuberculosis[3]**.** **Staphylococcus aureus** is an important organism in septic pulmonary embolism and it might lead to pneumothorax.

The characteristic radiological finding is bilateral numerous nodules with varying degree of cavitation ,Nodules may differ in size reflecting recurrent showers of embolism . Iwasaki found 30 % of SPE had found **feeding vessel sign** which is nothing connection between a pulmonary artery and infected pulmonary nodule in CECT[1] Common pleural complication like pleural effusion , empyema and pneumothorax and radiological differential diagnosis includes vasculitis , cavitary malignancy and thromboembolism.

SPE begins in chronic intravenous drug use, where superficial and peripheral vein are obliterated forcing utilization of proximal and more central vein for injection mechanical and toxic complications may occur, such as: hematoma and haemorrhage, traumatic arteriovenous fistula, intra arterial drug injection, myotic aneursysm, soft tissue abscesses and venous thrombosis, these last two predisposing to life threatening septic embolism and deep vein thrombosis[2]. Bacterial embolisation form micro abscesses within the thrombosed vein may lead to severe systemic disease ,including right sided endocarditis[3,4]. The embolic clot that produces infarction in the pulmonary vasculature also contains microorganism that incite focal abscess formation so called SPE.

3. Conclusion

1. SPE can manifest as recurrent episodes of pneumonia which can be missed without eliciting adequate clinical history.

2. Tricuspid valve endocarditis is a dreaded complication that need prolonged antibiotic treatment and even valvular surgery.

3. Timely management can prevent mortality.

4. For iv drug abusers psychiatry rehabilitation is an integral part to prevent recurrence

Declaration of Patient Conflict

I clarify that I Have obtained all appropiate patient consent forms.In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

FINANCIAL SUPPORT AND SPONSERSHIP

NIL

CONFLICT OF INTEREST

There are no conflicts of interest

3. Reference

Iwasaki ,Y et al. spiral CT findings in pulmonary embolism European journal of Radiology 2001Mar;37(3);190-4

Cook,RJ et al. Septic Pulmonary Embolism Presenting features and clinical course of 14 partients Chest 2005;128162-166

O'Donnell ,AE et al Pulmonary Complications associated withillicit drug use;an update Chest 1995;108;460-463

Vickram, A. S., Kamini, A. R., Das, R., Pathy, M. R., Parameswari, R., Archana, K., & Sridharan, T. B. (2016). Validation of artificial neural network models for predicting biochemical markers associated with male infertility. Systems biology in reproductive medicine, 62(4), 258-265.

Fah,F et al .septi deep vein thrombosis in intravenous drug users Swiss Med Wkly 2002;132;386-392