Uncommon Presentation of Fatal Pulmonary Embolism

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Abstract

We are reporting a case of 57 year old lady smoker with history of hypertension, diabetes, hypercholesterolemia and depression that was admitted to hospital for suicidal ideation and paraspinal abscess. Patient had acute retrosternal chest pain associated with shortness of breath, electrocardiogram finding was highly suggestive of STEMI in V1-V3, Patient coded in ventricular tachycardia that cardioverted to sinus rhythm, coronary angiogram didn't reveal culprit lesion but pulmonary angiogram confirmed the diagnosis of pulmonary embolism.

Keywords: Pulmonary Embolism; ACS

Introduction

Pulmonary Embolism (PE) is a relatively common disease that can be life threatening [1-3]. It occur secondary to occlusion of the pulmonary artery or one of its branches. In spite of, the clinical presentation is variable and sometimes it is difficult to depend on signs and symptoms in diagnosis, early diagnosis and treatment can decrease mortality [4].

Variable Electrocardiogram (EKG) patterns were found in patients with PE [5,6] ST Segment Elevation Myocardial Infarction (STEMI) is extremely rare. In our case report, patient presented with chest pain and EKG finding highly suggestive of Acute Coronary Syndrome (ACS), coronary angiography couldn’t find culprit lesion but there was massive PE on pulmonary angiogram.

Case Report

57 year old women smoker with history of hypertension, diabetes, hypercholesterolemia and depression was brought by ambulance to our emergency room for change in mental status after suicidal attempt by high dose of vicodin and other pain medications. Patient recently diagnosed as paraspinal abscess in another hospital and she left against medical advice one day before her presentation to us. On admission patient was confused, hemodynamic stable with normal heart and chest exam, her EKG revealed sinus rhythm with first degree heart block (Figure 1).

On hospital day four patients had sudden retro-sternal chest pain associated with shortness of breath and diaphoresis, patient was tachypneic, hypotensive, tachycardic with heart rate of 143 beat per minute and hypoxic with oxygen saturation of 76% on room air. EKG was done immediately to reveal sinus tachycardia and ST segment elevation in leads V1 to V3 (Figure 2).

Code STEMI was initiated but shortly patient coded with rhythm of ventricular tachycardia that electrically cardioverted to sinus rhythm, Patient was intubated and mechanically ventilated, intravenous vasopressors were started and transferred to cardiac cath.

Coronary angiography revealed non significant LAD lesion (Figure 3), that didn’t match with the clinical finding so was decision to do pulmonary artery angiogram that showed large saddle embolus in the bifurcation of pulmonary artery. (Figures 4 and 5) Tissue Plasminogen Activator (TPA) started but patient coded again and unfortunately cardiopulmonary resuscitation was unsuccessful.

Discussion

The most common cause of pulmonary embolism is blood clot that dislodges from peripheral vein and travel through circulation...
to pulmonary artery, other causes like air bubbles, fat emboli and amniotic fluid can cause same problem. The diagnosis of PE is based primarily on validated clinical criteria combined with selective testing, shortness of breath and pleuritic chest pain are the most common symptoms experienced by patient with PE, other symptoms include; productive cough, fever, syncope, hemoptysis, palpitation and seizures.

In addition, massive PE can present by shock and even sudden death [7-11].

Pulmonary Embolism has been known to be associated with different morphological EKG changes, the predominant rhythm abnormalities is sinus tachycardia, most of PE cases have EKG changes suggestive of acute right ventricular strain like, incomplete or complete right bundle branch block, an S1Q3T3 pattern (defined as an S wave in lead I, a Q wave in lead III, and an amplitude of >1.5 mm associated with inversion of the T wave in lead III), inverted T waves in the second and third precordial leads [12-15].

Although ST segment elevation is not one of the criteria suggestive of PE, few cases were reported to have ST segment elevation in anteroseptal and anterior precordial leads [16,17]. Still the exact mechanism of ST segment elevation is unclear in patient with PE. In our case, many factors were suggestive of diagnosis as acute coronary syndrome including history of smoking, diabetes, hypertension and hypercholesterolemia, clinical presentation with chest pain, EKG finding in form of significant ST segment elevation anteroseptal leads. In addition patient coded in ventricular tachycardia, this is common with ACS. But, patient didn’t have culprit lesion on coronary angiogram and diagnosis of PE was confirmed by pulmonary artery angiogram.

**Conclusion**

Among high risk patients that present by chest pain and EKG finding of anteroseptal STEMI, pulmonary embolism could be the underlying cause.

**References**