Case	(355) Postinfarction ventricular septal rupture
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CASE PRESENTATION

A 49-year-old man presented to the emergency department with recurring chest pain (oppressive and intermittent), weakness and shortness of breath at rest. On physical examination the patient was tachypneic and hypotensive.

Due to clinical suspicion of pulmonary embolism, urgent angiography CT was request and it excluded the presence of pulmonary embolism. However, an unsuspected rupture of the interventricular septum and pulmonary edema were detected (images).

ECG showed sinus tachycardia with ST-segment elevation in the inferior leads. Cardiac catheterization demonstrated incomplete occlusion of the right coronary artery, with evidence of a ventricular septal rupture.?

DISCUSSION

Ventricular septal rupture (VSR) is a rare but mortal pathology. It represents a defect in the interventricular septum that allow a hemodynamic communication between the right and left ventricles, it typically results in a left-to-right shunt.

Rupture develops after full-thickness infarction of the ventricular septum and can occur at any anatomic location. In patients without reperfusion, coagulation necrosis of ischaemic tissue develops within hours or 3-7 days after infarction.

Risk factors include prior stroke, ST-segment elevation, elevated cardiac markers, hypertension, female gender and advanced age.

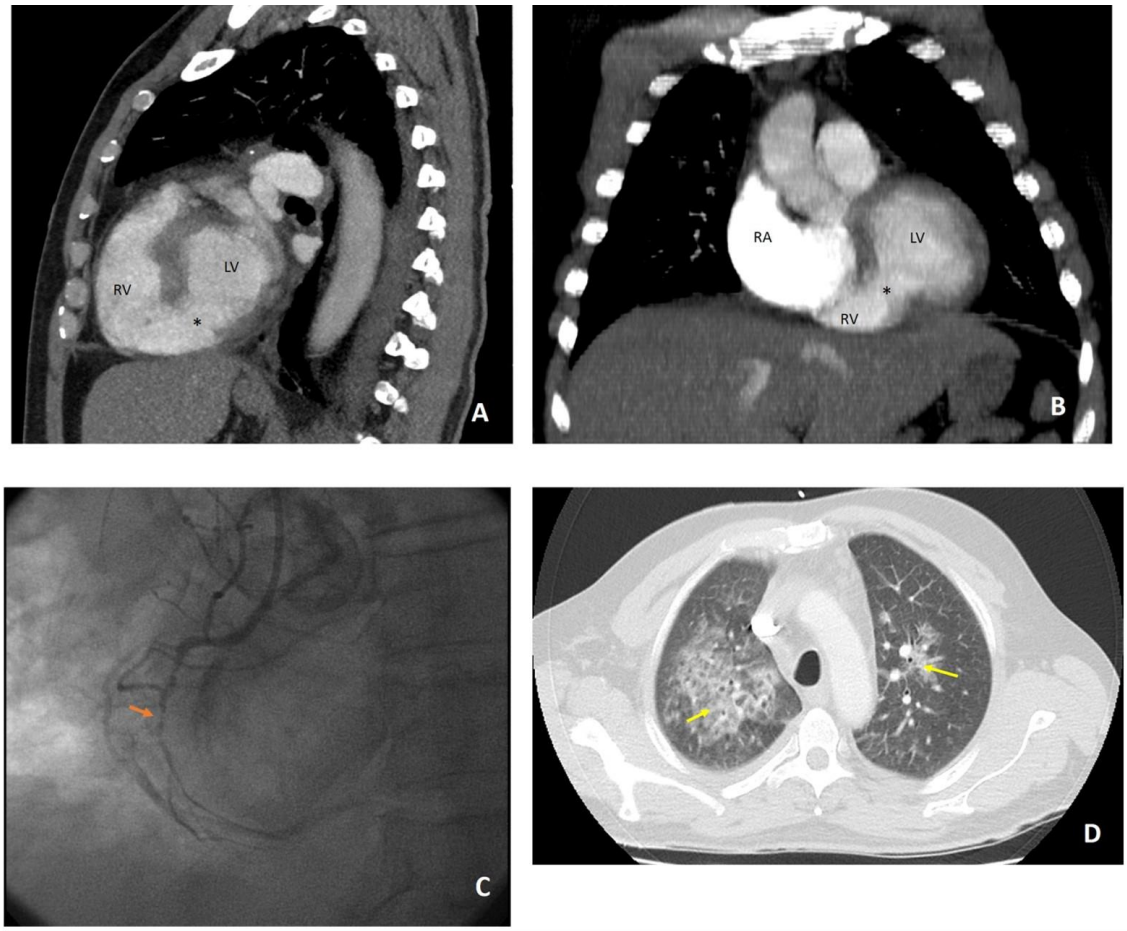
Clinical presentation varies depending on the size and resultant severity of the VSR. Small lesions may be asymptomatic with complete haemodynamic stability. However larger lesions may cause cardiogenic shock. Non-specific clinical presentation results in a lack of medical expertise in the identification of VSR. Rupture should be suspected in patients with a new systolic murmur after a documented myocardial infarction.

Doppler echocardiography is usually diagnostic, it allows direct visualization of the septal defect and can be used to estimate the size of the left-to-right shunt. CTA with ECG-gating allows direct visualization of the defect although large VSR may be seen on non-gated studies. MRI may also show added functional information.

Optimal management of patients with VSR can be controversial. Medical management of VSR is usually futile. Surgery remains the treatment of choice, but there are some techniques for repair of VSR.

CONCLUSION

Prompton diagnosis is key due to high mortality rate. Radiologist must know it and look for it even if there is no initial clinical suspicion.



A-B) Reconstruction CT images demonstrate rupture of the inferior septal segment (asterisk) with free communication between the right and left ventricles.
C) Cardiac catheterization demonstrates incomplete occlusion of the right coronary artery (arrow).
D) Axial CT scan shows ground-glass opacities classically in a batwing distribution.

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