ESOPHAGEAL HEMATOMA FOLLOWING ATTEMPT TO ATRIAL SEPTAL DEFECT CLOSURE: A CASE REPORT

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CASE REPORT

A 58–year-old woman with 6 months of dyspnea on exertion (DOE), function class II based on New York Heart Association (NYHA) classification referred to our center. There was fixed splitting of S_2 and a II/VI systolic murmur in pulmonary valve area on cardiovascular examination. Transeophageal echocardiographic (TEE) was performed and the following results were confirmed: Normal left ventricle (LV) size with an Ejection Fraction (EF) of 55%, moderate right ventricular (RV) enlargement with preserved systolic function, mild right atrial (RA) enlargement, no significant valvular heart disease, mild pulmonary arterial hypertension (PAH) and an estimated systolic pulmonary arterial pressure (sPAP) of 38 mmHg. There was a moderate sizeed secundum type ASD (size: 1*1.3 cm) with left to right shunting and QP/QS=1.7. All rims were acceptable with the exception of the anterosuperior rim (3 mm). Other rims were posteroinferior: 1.7 cm, Inferior Vena Cava (IVC): 3.1 cm, Superior Vena Cava (SVC): 1.5 cm. Based on the echocardiographic findings, the patient was scheduled for ASD device closure.

Coronary angiography revealed normal epicardial coronary arteries. The TEE probe was passed easily without any difficulty. The guide wire was advanced via the ASD to left atrium (LA) & left upper pulmonary vein (LUPV). After sizing balloon inflation, the defect size was measured about 15 mm and, due to the unsuitable anterosuperior rim (3mm), an ASD Occluder Figulla II size 18 mm, was deployed but the procedure failed after three attempts due to redundant posterior ASD rims. Therefore, the patient was considered for ASD surgical closure in the future. The patient was transferred to ward but after three hours developed hematemesis and mild chest pain. Diagnostic and treatment considerations were planned; patient hemoglobin (Hgb) was checked and a significant drop in hemoglobin was detected (from 12.1 gm/dL to 7.2 gm/dL), and four units of packed cells transfused. The patient was transferred to intensive care unit and monitored carefully and an access site hematoma was excluded using ultrasonography. Though antiplatelet therapy is a policy in ASD device closure, because of our unsuccessful closure, we did not prescribe these agents which helped us to manage gastrointestinal bleeding. Consultation with a gastroenterologist and thoracic surgeon was carried out and patient condition followed up cautiously. Broad-spectrum antibiotics such as Ampicillin, Gentamycin and Clindamycin prescribed in order to prevent mediastinitis. Thoracic multislice spiral Computed Tomographic (CT) with and without contrast medium was performed. This procedure was conducted with separate mediastinal and pulmonary window setting and revealed tubular shape structure in the posterior mediastinum along the esophagus, a hematoma (38.01 mm) or injury possibly due to esophageal perforation (Fig.1).

Transthoracic Echocardiography (TTE) revealed hematoma posterior to LA without any compressive effect and no other new findings. The patient was monitored carefully during the next seven days and

hemodynamic status and subsequent Hgb were stable during this time. A multislice thoracic CT scan was performed during the following seven days which revealed reduction in esophageal hematoma size and the presence of a small pleural effusion.

On the other hand, Barium swallow represented mucosal laceration and erosion of esophagus (arrow), there was no sign of contrast extravasations from esophageal lumen (Fig.2).

The patient's nutrition status gradually changed from Nil Per Oral (NPO) and Total Parental Nutrition (TPN) to liquid, soft and finally regular diet which was tolerated by patient during hospitalization. Patient vital sign and laboratory tests remained stable during hospital course and after gastroenterologist and thoracic surgeon confirmation; the patient was discharged for ambulating follow up. After one month, she was in good general health condition, so planned for surgical ASD closure in the future.

DISCUSSION

An esophageal perforation is a life-threatening event. Esophageal leakage into the mediastinum can cause a necrotizing inflammatory process that can lead to sepsis, multi-organ failure, and death. The esophageal perforation during TEE is a rare event (0.03%). The morbidity and mortality of esophageal rupture is high (19%). Since delayed diagnosis of esophageal perforation after 24 hours can lead to an increase in mortality from 14 to 27 percent, it is crucial to make the diagnosis early and plan the treatment including surgery, as gold standard, to repair the perforation site with drainage of any collection; prescribing broad spectrum intravenous antibiotics and nutritional considerations. If the patient is stable without fever or any other indicator of active infection, conservative treatment including NPO, TPN and medications such as proton pump inhibitors agents; broad spectrum intravenous antibiotics associated with close observation with barium swallow and serial chest CT scan is recommended. Otherwise, if the patient conditions deteriorate, surgery should be performed. We diagnosed esophageal hematoma due to perforation on the same day of procedure. Since the patient was stable, conservative approach with serial laboratory tests, chest CT scan and TTE were considered that revealed a reduction in hematoma size.

CONCLUSIONS

Though very rare, presenting this case report can provide guidance in managing this challenge and can be a helpful reminder to prompt diagnosis in similar situations. Immediate diagnosis and suitable management can save patients' lives.

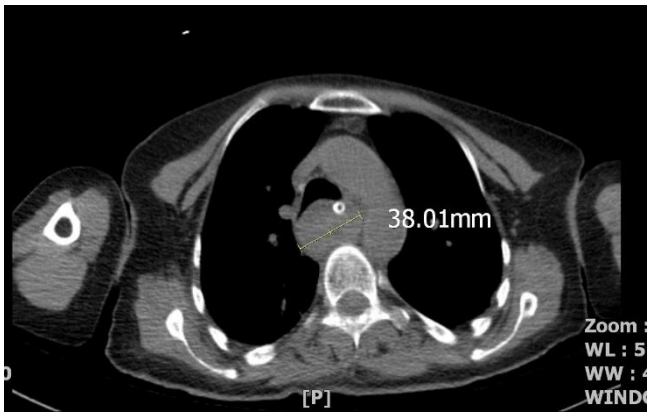

Figure1: Thoracic CT scan revealed esophagus hematom

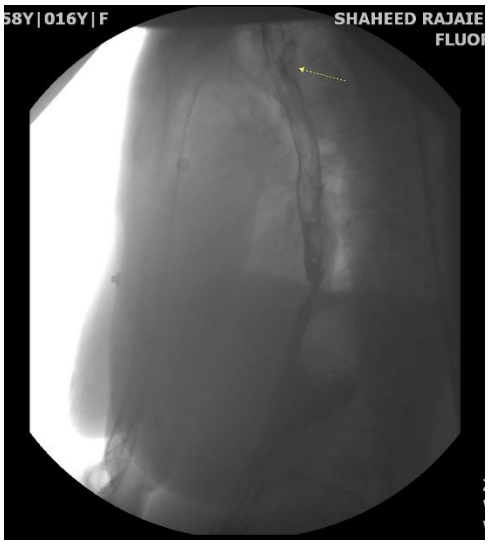

Figure2. Mucosal laceration and erosion of esophagus in Barium swallow