

## Aortic Wall Abrasion Caused By Needle Injury After EUS-Guided FNA of a Mediastinal Hemangioma

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**Introduction:** Benign mediastinal cysts, accounting for approximately 12% to 30% of mediastinal masses, are challenging to diagnose. While endoscopic ultrasound(EUS) and EUS-guided fine needle aspiration(FNA) can provide a reasonably accurate diagnosis of mediastinal foregut cysts by distinguishing solid from cystic lesions, little is known about procedural complications besides from an increased risk of infection. We report a rare case in which EUS-guided FNA, performed on mediastinal hemangioma preliminarily misdiagnosed as bronchogenic cyst, resulted in an aortic hematoma caused by aortic wall abrasion from FNA needle injury.

**Case presentation:** A 29-year-old female patient was commissioned for endoscopic ultrasound of an asymptomatic accidental mediastinal lesion. Chest CT revealed a 4.9 x 2.9 x 10.1 cm thin walled cystic mass in posterior mediastinum, abutting and seemingly arising from the esophagus. EUS revealed a large, anechoic cystic lesion with regular thin wall with negative Doppler in posterior mediastinum. Preliminary EUS diagnosis was esophageal duplication cyst or bronchogenic cyst. Upon administration of prophylactic antibiotics, EUS-guided FNA was performed using single-use 19-gauge aspiration needle (EZ Shot 3; Olympus, Tokyo, Japan), and about 70cc of serous pinkish fluid was aspirated. The patient was in a stable condition with no signs of complication. One day after EUS-FNA, thoracoscopic resection for mediastinal mass was conducted. Purple and multi-loculated large cyst, well capsulated without any connection to esophagus, was observed in posterior mediastinum and subsequently removed. Upon the removal, however, an aortic hematoma caused by a focal descending aortic wall injury was observed. After a few days of close observation, the patient was discharged upon stable findings from 3D aorta angio CT.

**Conclusion:** We report a rare and severe complication of EUS-FNA, in which aspiration needle caused a direct injury to aorta. In mediastinal lesions, EUS-FNA should only be performed when necessary and-when it's done-injection needs to be performed with great care to avoid the possibility of damaging adjacent organs or digestive tract walls.

