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Visual Case Discussion

Elderly woman with left flank pain

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A 98-year-old woman with past medical history of hypertension, chronic kidney disease stage III, hyperlipidemia, congestive heart failure and coronary artery disease status post two-vessel coronary artery bypass graft in 2001 presented to a high-volume, suburban emergency department in Florida by EMS with complaint of left-sided flank pain at 6 a.m. Her vitals were BP 110/59 mmHg, HR 87 bpm, RR 18 bpm and temperature 36.6 °C during transport and on arrival. The patient was alert and oriented on initial exam but in moderate discomfort. History was initially limited due to a language barrier and patient distress. The patient reported upper abdominal pain and left flank pain that started the previous night. She became acutely altered in the exam room with a left sided gaze deviation. Her vitals remained unchanged and her altered mentation resolved after a period of 1,2 min. She was rushed to CT for emergent neurologic imaging as well as imaging of the chest and abdomen.

Non-contrast CT of the abdomen and pelvis showed a ruptured thoracic aortic aneurysm with hemorrhage into the mediastinum (see arrow Fig. 1) and throughout the left pleural cavity and with two pseudoaneurysms of the descending thoracic aorta, the largest and most distal of which extended over 6 cm in length and 5.6 cm in depth (see arrows Fig. 2). The patient became acutely altered once again upon returning to the resuscitation bay. The family was informed of her diagnosis and prognosis and was at bedside. The patient was given comfort measures per family wishes and expired shortly thereafter with PEA arrest. Total time from patient arrival to expiration was 30 min. Ruptured thoracic aortic aneurysms are uniformly fatal with a mortality rate of 97–100%.[1] Early detection and intervention are essential to curbing this mortality rate. Risk factors for this patient included ad-

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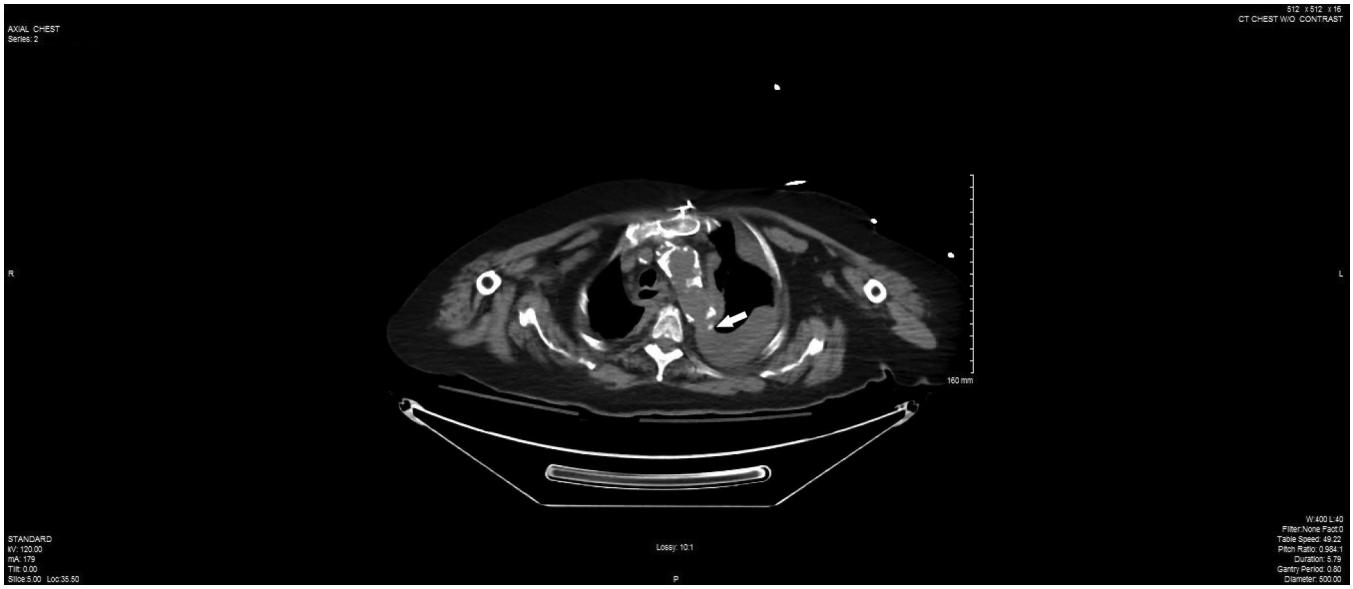

Fig. 1. Non-contrast CT scan of chest (proximal window).

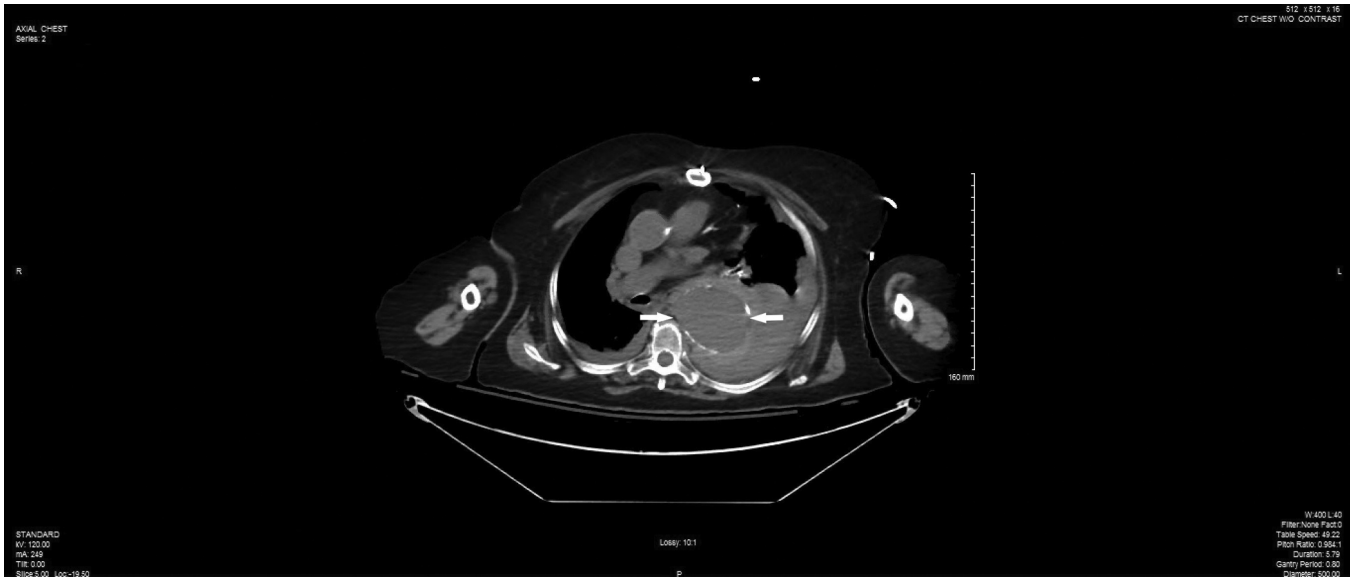

Fig. 2. Non-contrast CT scan of chest (distal window).

vanced age, hypertension and atherosclerosis.[2,3] This case demonstrates a rare visualization of an actively rupturing thoracic aneurysm and a non-classical exam presentation.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.visj.2018.11.010.

References

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Questions

1. Aortic dilatation is defined as a measurement that exceeds the normal range for a given age and body size. An aneurysm, or pathologic dilatation, is defined as:
   a. 20% increase above normal range
   b. 30% increase above normal range
   c. 40% increase above normal range
   d. 50% increase above normal range
   e. 80% increase above normal range

2. Risk factors for aortic aneurysm include all of the following except:
   a. Age
   b. Diabetes Mellitus
   c. Hypertension
   d. Atherosclerosis
   e. Infection

Answers

1. 50% increase above normal range. Explanation: Statistically, this is the range where authors and clinicians agree that pathology including dissection and rupture tends to occur and intervention, medical or surgical, is warranted.

2. Diabetes Mellitus. Explanation: Diabetes Mellitus is not associated with an increased risk of developing aortic aneurysm and may actually contribute protective effect against the development of aneurysms.