

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Vascular Diseases Quiz – Case 56

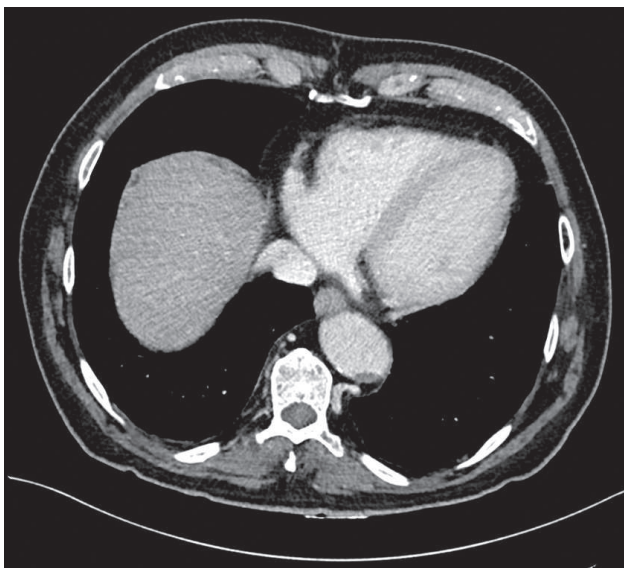
A 67-year-old man presented to the emergency department with back and chest pain. His medical history included hypertension, smoking and hypercholesterolemia. There were no pathological findings in his electrocardiogram (ECG) and serum troponin levels. There was no family history of aortic aneurysm or dissection. A computed tomography (CT) was performed and the result can be seen in figure 1.

- (a) What pathology is shown in the computed tomography angiography (CTA)?
- (b) What is the preferred management?

#### Comment

*Penetrating aortic ulcer (PAU), along with aortic intramural hematoma (IMH) and dissection (AD), is part of the acute aortic syndromes (AAS). They all share a common initial pathophysiological mechanism and each pathology can transform to the other forms.*

*PAU may be the result of progressive erosion of atheromatous plaque with penetration of the elastic lamina. Although PAU*



**Figure 1.** Penetrating aortic ulcer (PAU) of the descending aorta.

ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2020, 37(3):429–430  
ARCHIVES OF HELLENIC MEDICINE 2020, 37(3):429–430

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*is more frequent in older patients with arterial hypertension, hypercholesterolemia and aortic sclerosis, it may also develop in younger patients with intimal tears which remain focal and fail to advance to an AD or an IMH. Complicated PAU involves degeneration towards pseudoaneurysm formation, dissection, or rupture. Careful imaging with a CT is necessary to evaluate the diameter and depth of PAU. The prognosis and natural progression are unknown, but it is estimated that 20–30% of asymptomatic PAU advance over time at an unknown rate of progression.*

*Initial treatment of asymptomatic or uncomplicated PAU is medical, in a similar manner to the treatment of AD. Endovascular repair is recommended over open repair, as it is related to lower morbidity rates.*

#### References

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