



# Massive Penetrating Aortic Ulcer of the Ascending Aorta

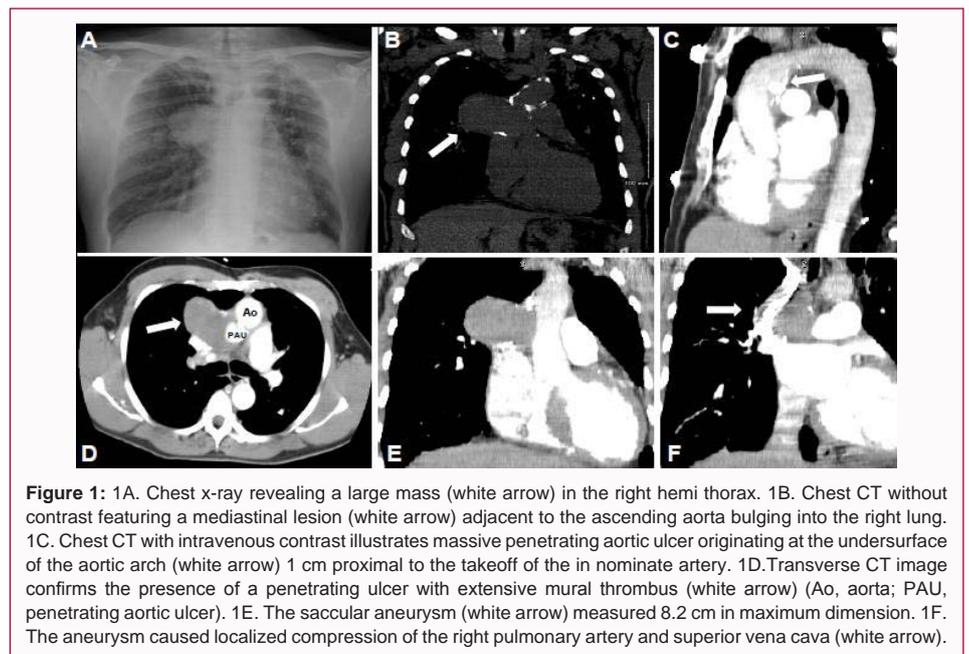
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## Clinical Image

A penetrating aortic ulcer represents rupture of an atherosclerotic plaque with penetration into the internal elastic lamina of the aorta [1]. They typically occur in patients with extensive atherosclerosis and severe pulmonary disease. While slow growing, these lesions may lead to saccular aneurysm formation, severe pain and eventual aortic rupture [2].

A 60 year old male with a history of hypertension and chronic obstructive pulmonary disease presented to hospital with chest pain. A chest x-ray demonstrated a right-sided mass (Figure 1). Chest computed tomography (CT) noted a calcified 8x5 cm penetrating ulcer of the ascending aorta. The ulcer contained extensive mural thrombus and caused localized compression of the right pulmonary artery and the superior vena cava. The patient underwent surgical replacement of the ascending aorta without complication. He was discharged home 8 days after surgery. To the best of our knowledge, the penetrating aortic ulcer featured herein is the largest documented to date.



**Figure 1:** 1A. Chest x-ray revealing a large mass (white arrow) in the right hemi thorax. 1B. Chest CT without contrast featuring a mediastinal lesion (white arrow) adjacent to the ascending aorta bulging into the right lung. 1C. Chest CT with intravenous contrast illustrates massive penetrating aortic ulcer originating at the undersurface of the aortic arch (white arrow) 1 cm proximal to the takeoff of the innominate artery. 1D. Transverse CT image confirms the presence of a penetrating ulcer with extensive mural thrombus (white arrow) (Ao, aorta; PAU, penetrating aortic ulcer). 1E. The saccular aneurysm (white arrow) measured 8.2 cm in maximum dimension. 1F. The aneurysm caused localized compression of the right pulmonary artery and superior vena cava (white arrow).

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