

A case of giant thoracic aortic aneurysm that initially presented as an altered mental state

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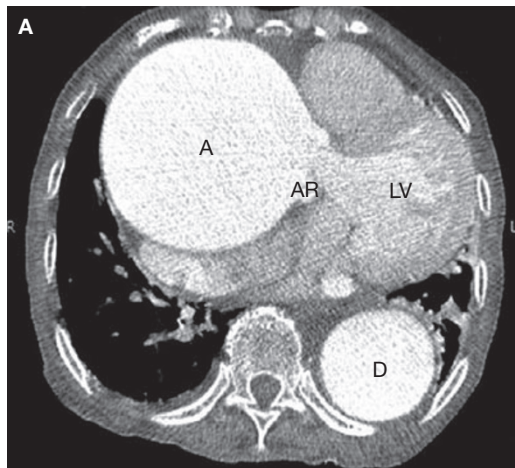
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A 75-year-old woman presented to the emergency department with hypoxia and somnolence, which had developed the previous day. Before the onset of symptoms she had been living in a nursing-care facility for 1 year. Although she was not in acute distress when she arrived at hospital, her physical examination was remarkable for markedly decreased bilateral breath sounds. After she received 4l of oxygen via a nasal cannula, her bedside oxygen saturation was 94%, her arterial pH was 7.26, PCO_2 was 99 mmHg, and PO_2 was 85 mmHg. A chest radiograph on admission revealed a wide mediastinum. (A) Contrast-enhanced CT angiography of the chest (axial view) revealed a 10 cm aneurysm in the ascending thoracic aorta, which had protruded into the right chest and compressed the right lung, and a 6 cm aneurysm in the descending thoracic aorta. The dilated ascending thoracic aorta had also displaced the left ventricle into the left chest, which together with the 6 cm aneurysm of the

descending thoracic aorta, compressed the left lung. (B) Three-dimensional reconstruction in a coronal plane demonstrated the volume of the right hemithorax that was occupied by the ascending thoracic aortic aneurysm. After an otherwise unremarkable medical evaluation, we concluded that her somnolence was secondary to acute on chronic hypercapnia, which was the result of impaired ventilation as a consequence of reduced lung volumes caused by compression by the aorta. Treatment with a bilevel, positive airway pressure machine was initiated and her mental state improved. She became aware of time, person and place, was able to follow verbal commands and regained the cognitive state she had before her symptoms developed. She was offered surgical aortic repair but she and her family declined any intervention. Abbreviations: A, ascending thoracic aortic aneurysm; AR, aortic root; D, descending thoracic aortic aneurysm; LV, left ventricle.