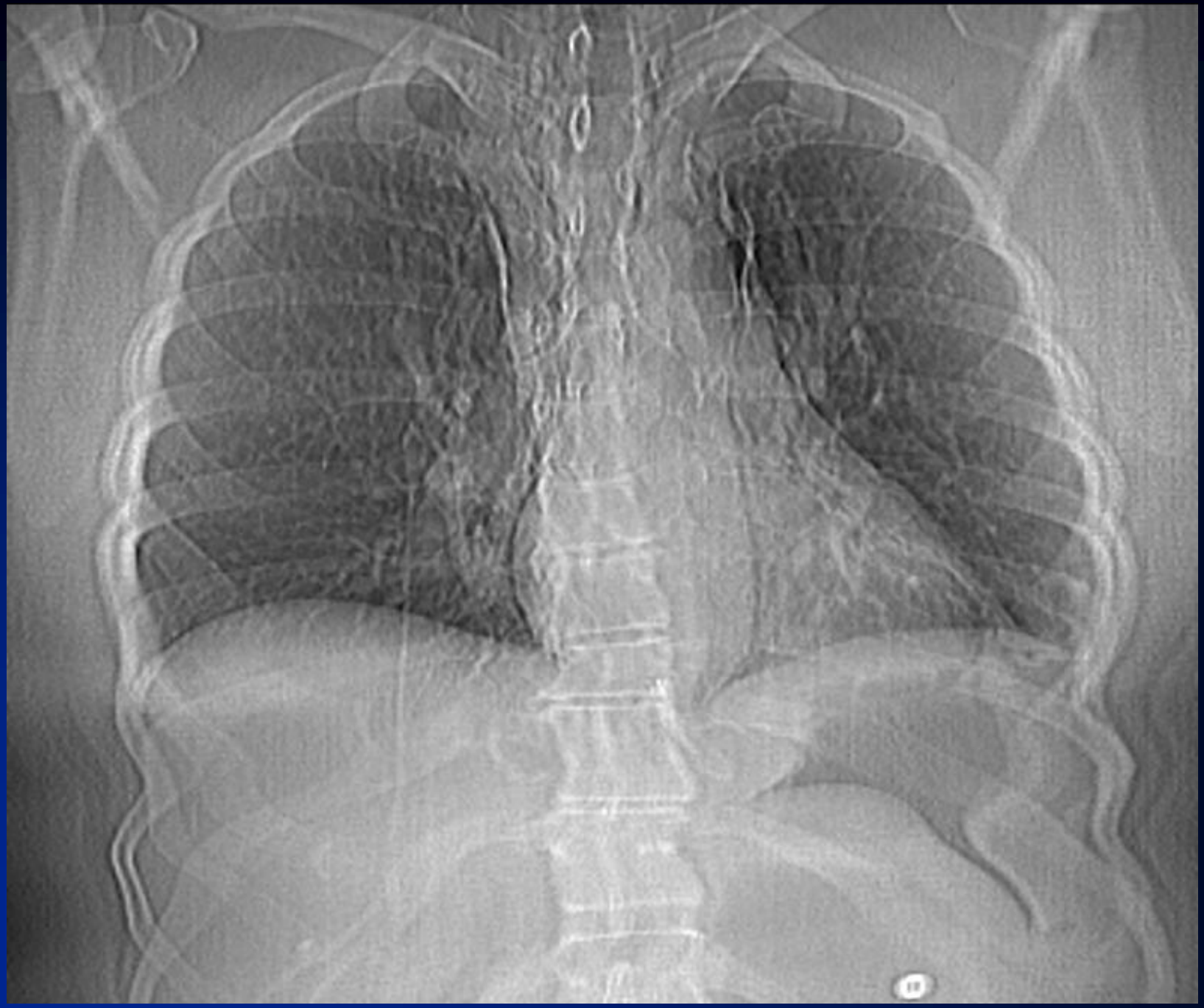
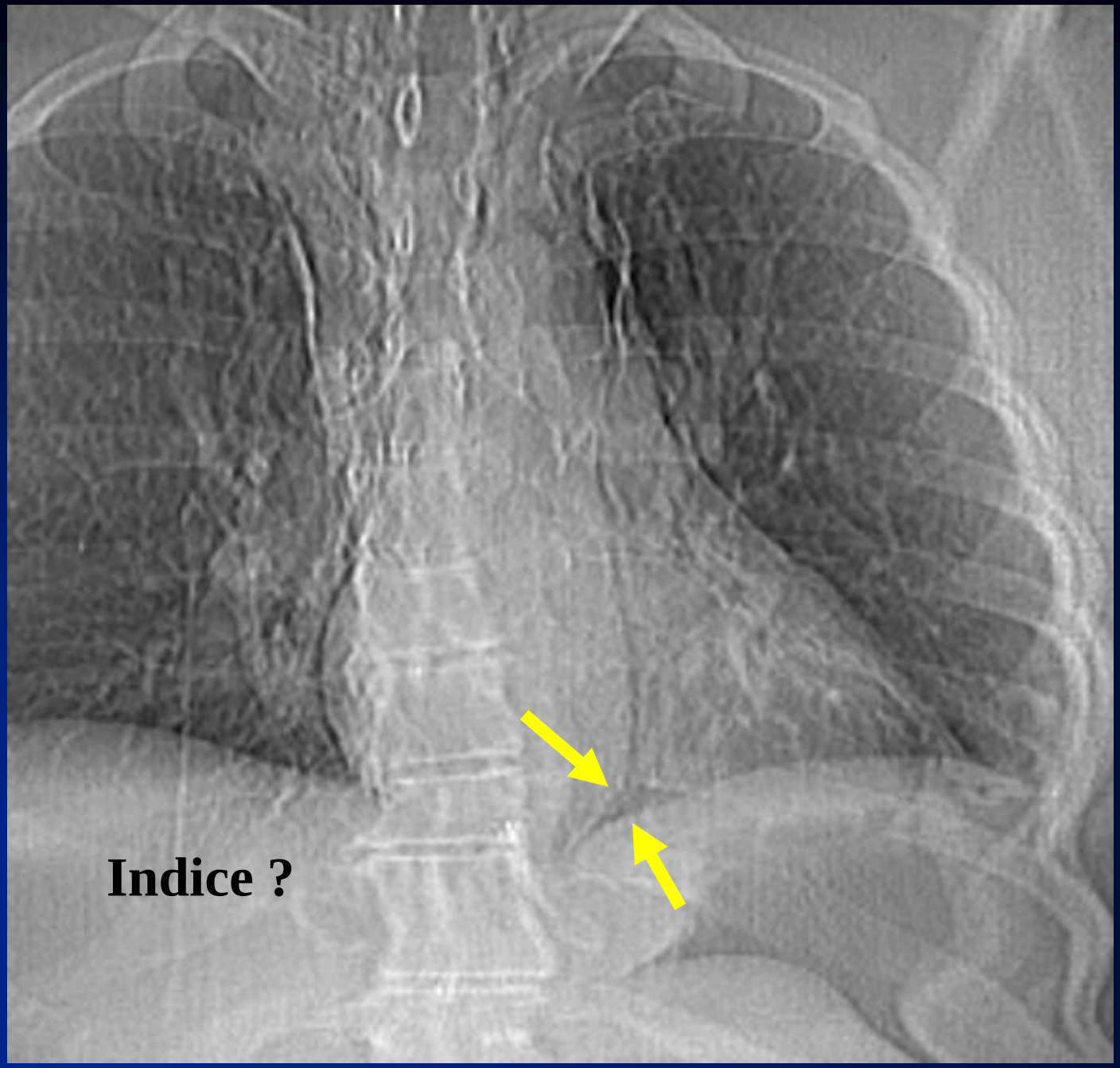
M. EL HAJJAM
J. SELLIER
P. LACOMBE

Patiente de 54 ans



Diagnostic ?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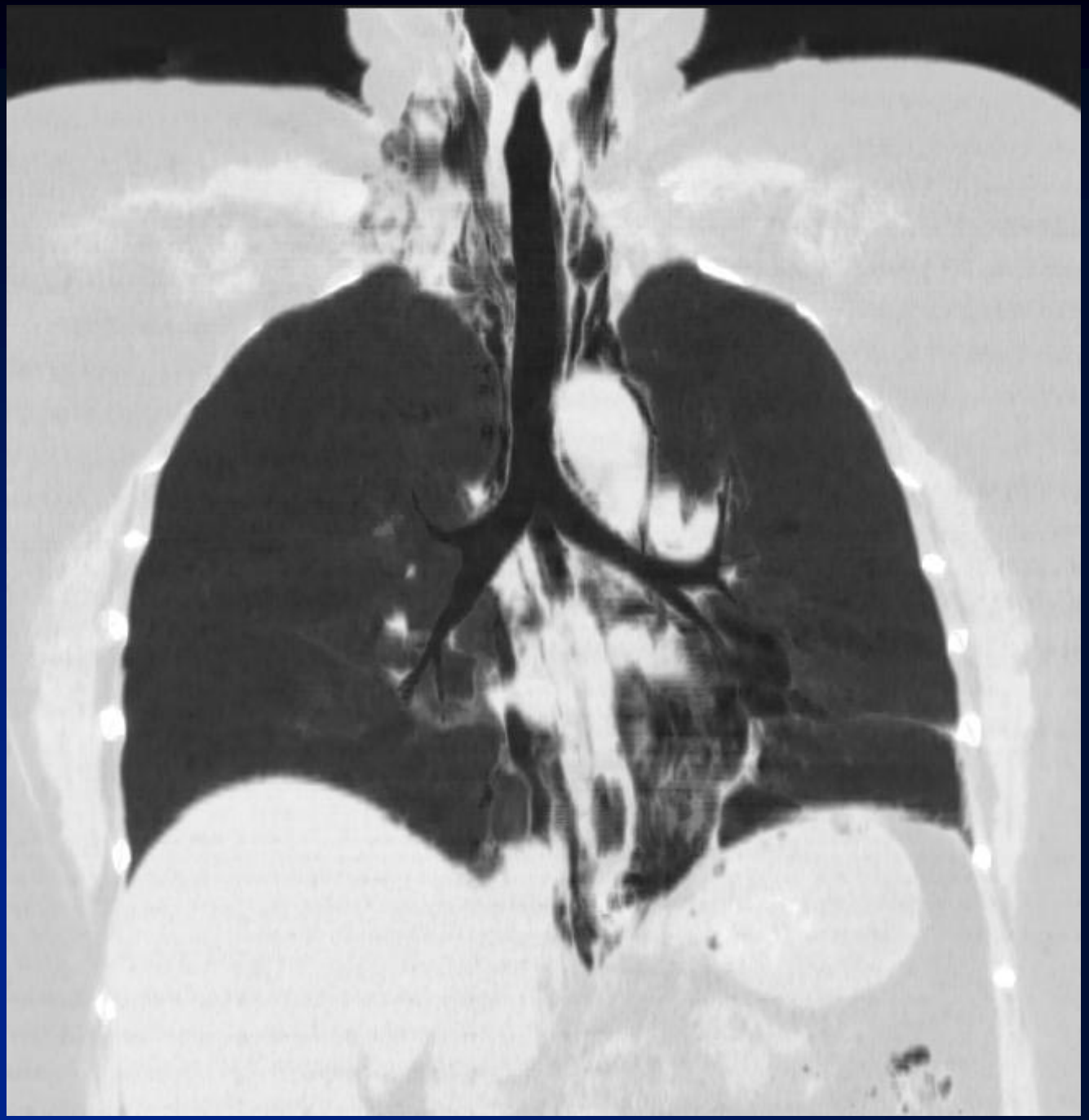

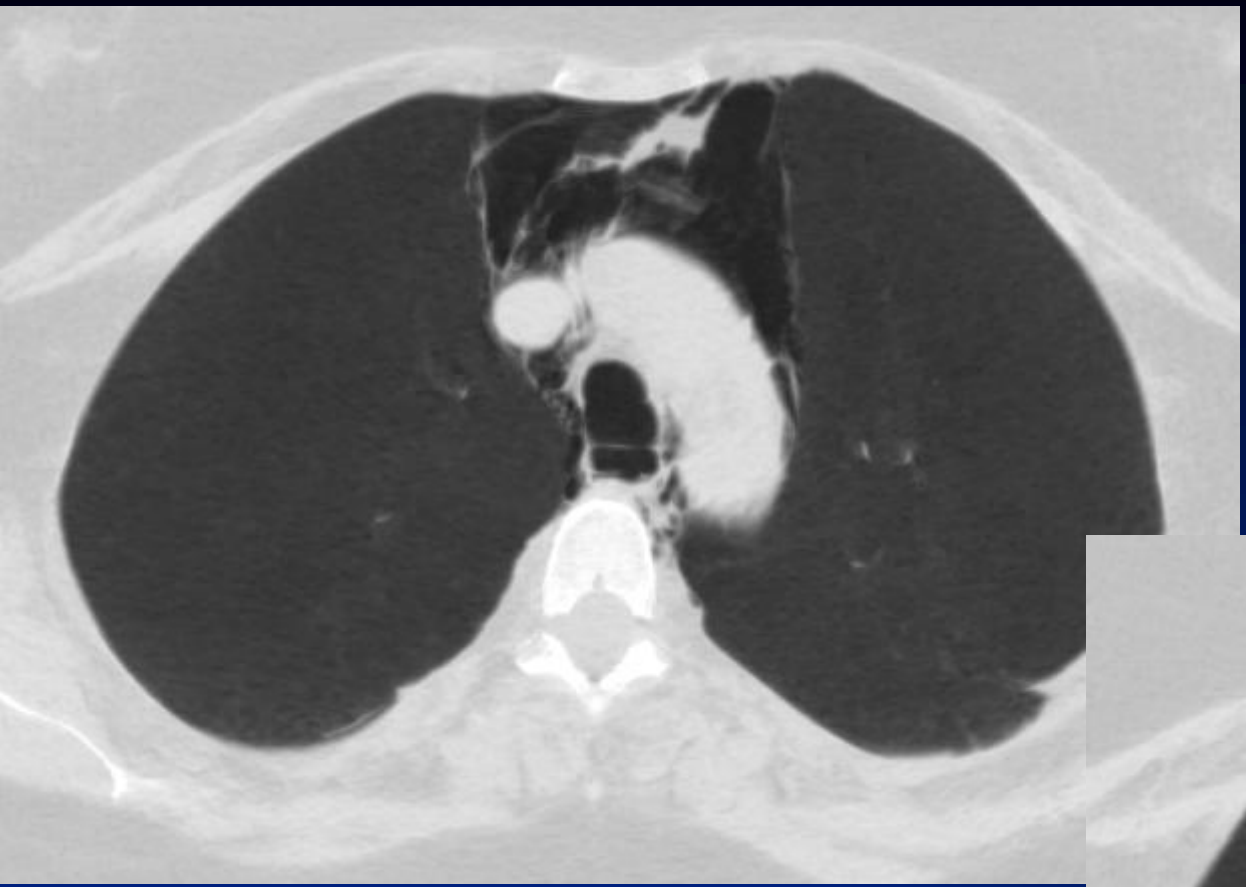

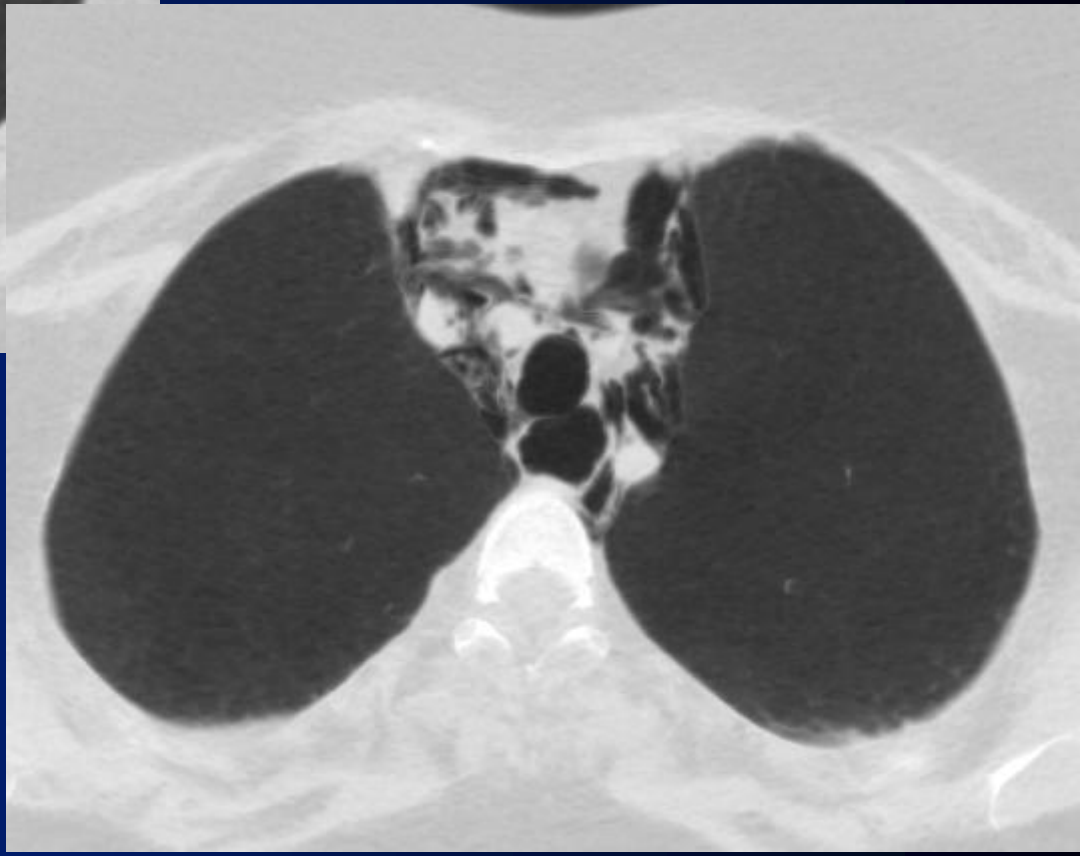

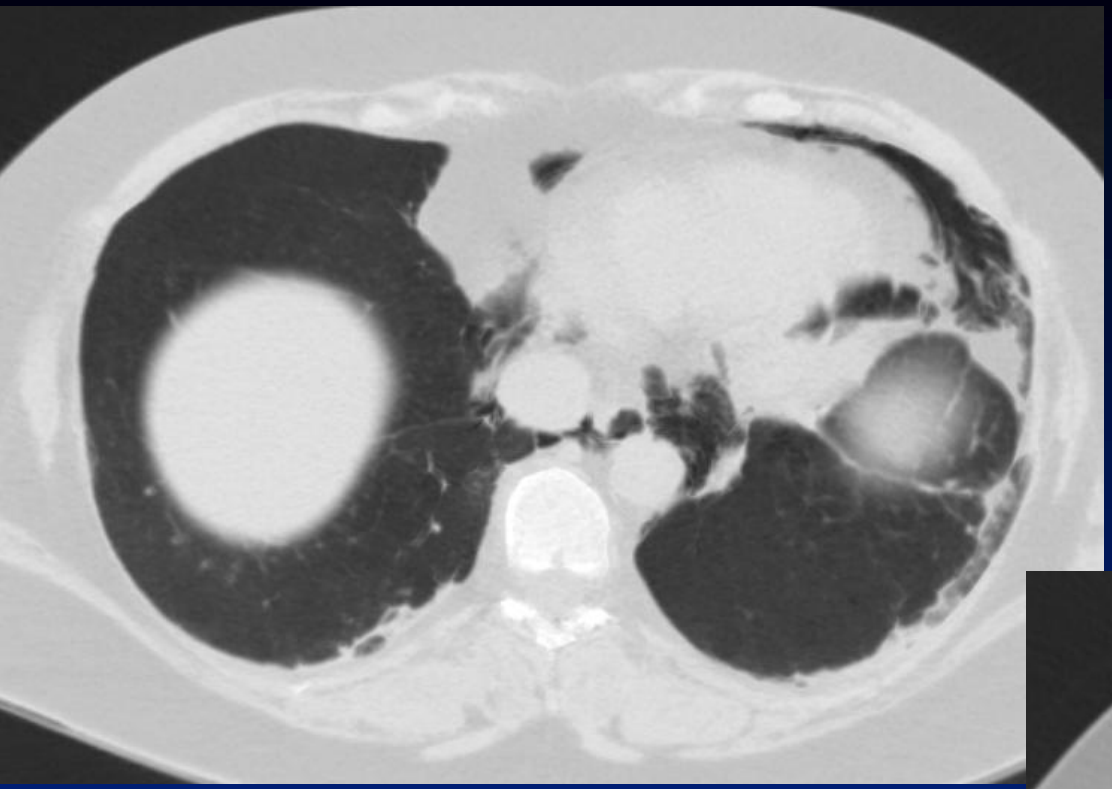

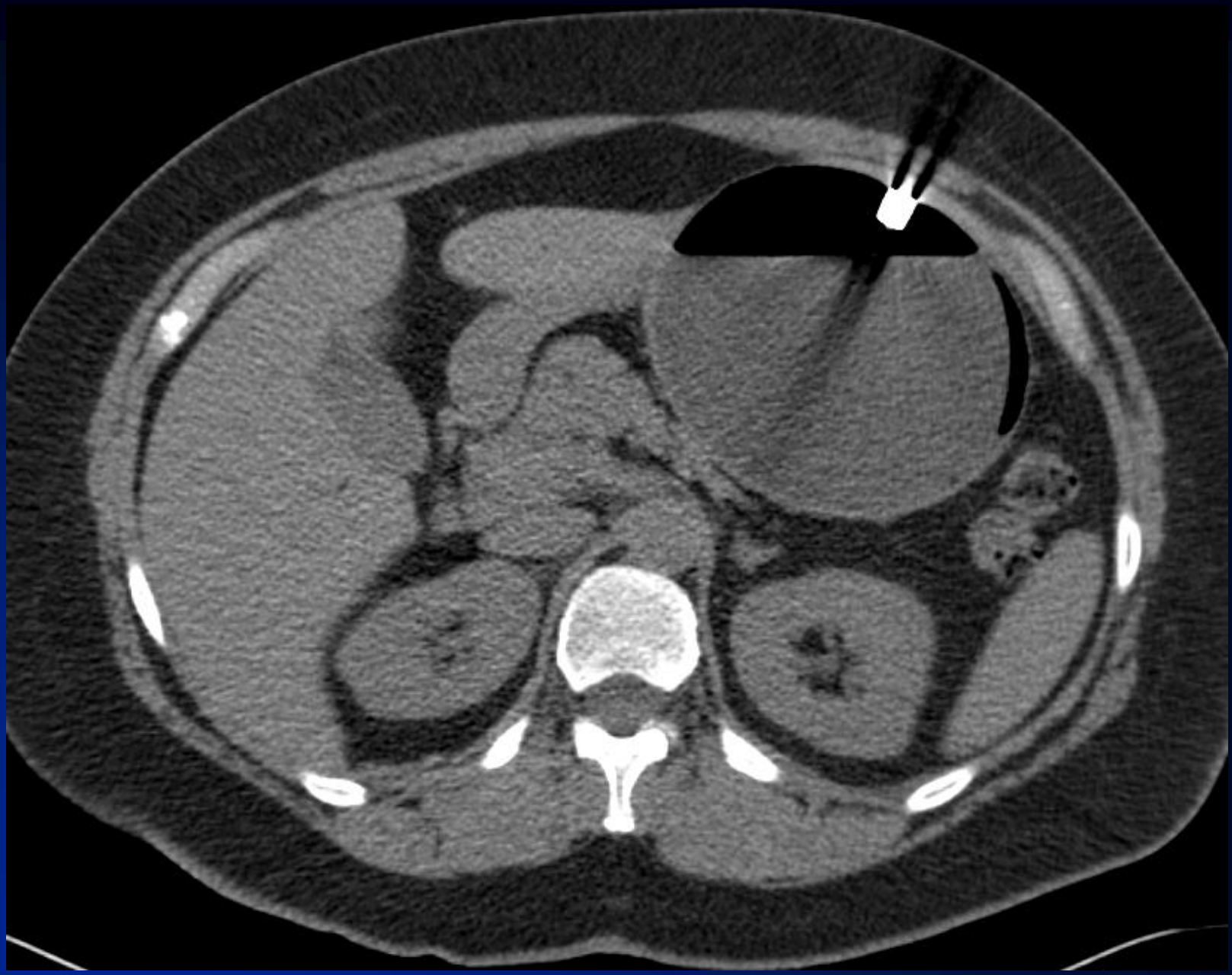

Diagnostic

Pneumo-médiastin ou Emphysème médiastinal

Perforation du bas œsophage

per-endoscopie pour mise en place d'un

Ballon intra-gastrique

Dans le cadre du traitement d'une obésité

Traitement chirurgical : Suture œsophagienne

Discussion

Naclerio's V Sign[1]

Rakesh Sinha, MD, FRCR

Radiology

Appearance

Naclerio's V sign can be seen on frontal radiographs of the chest as a V-shaped air lucency in the left lower mediastinal area (Fig 1).

Explanation

This V-shaped air collection occurs in the setting of pneumomediastinum. One limb of the V is produced by mediastinal air outlining the left lower lateral mediastinal border. The other limb is produced by air between the parietal pleura and medial left hemidiaphragm (Fig 2). Mediastinal air at this location is frequently seen in the presence of esophageal perforation.

Figure 1

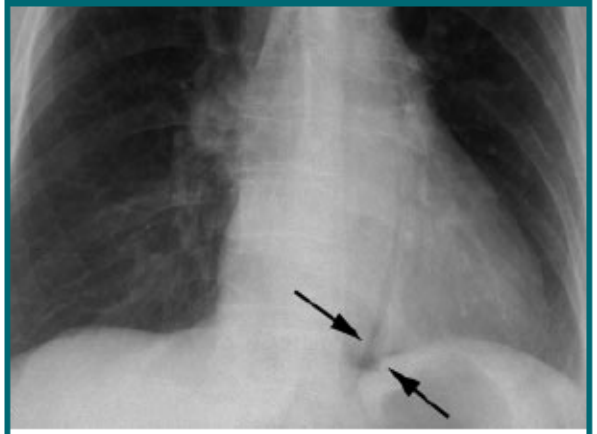

Figure 1: Frontal radiograph in patient with perforated distal esophagus due to chicken bone ingestion. Naclerio's V sign (arrows) is seen as an air lucency outlining the medial portion of the left hemidiaphragm and the lower lateral mediastinal border.

Discussion

On chest radiographs, pneumomediastinum is seen as multiple lucent streaks of air outlining mediastinal structures. It may be extensive, with air tracking up into the neck or chest wall (1,2). Pneumomediastinum can be secondary to alveolar rupture, which leads to pulmonary interstitial emphysema that travels centrally back to the mediastinum (3). Other conditions that can produce pneumomediastinum include asthma, chest trauma, and barotrauma. Tracheobronchial injury and esophageal perforation are less common causes of pneumomediastinum (4).

Naclerio described the V sign in patients with spontaneous esophageal rupture (5). Leakage of air from the perforated or ruptured distal esophagus produces pneumomediastinum, which results in outlining of the medial left hemidiaphragm and left lower lateral mediastinal area on radiographs. Naclerio attributed the finding to air "dissecting along diaphragmatic and mediastinal fascial planes in the region of the lower esophagus" (5). Iatrogenic and traumatic perfo-

Figure 2

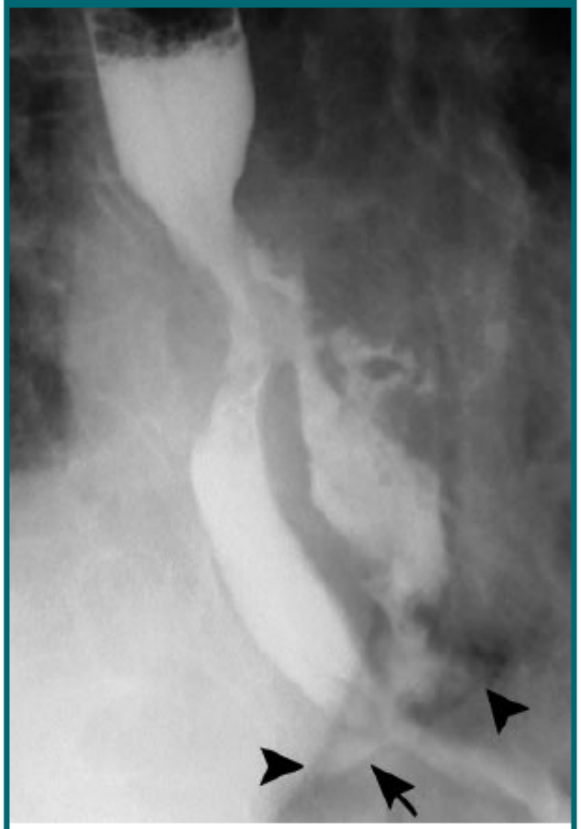

Figure 2: Esophagram obtained with iopamidol (Niopam [300 milligrams of iodine per milliliter]; E Merck Pharmaceuticals, West Drayton, United Kingdom) in patient with esophageal perforation after thoracic surgery. Contrast material leakage tracks along the medial left hemidiaphragm (arrow). Air outlines lower lateral mediastinal border and left hemidiaphragm (arrowheads).

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rations, usually occurring in the proximal esophagus, may not produce the V sign.

Esophageal perforation is a rare, albeit life-threatening, event (6). It has been a reported complication in about one per 1000 patients who undergo endoscopic examination (6). In a series of 127 patients, Bladergroen et al (7) found that 55% of their cases of esophageal perforation were iatrogenic, 15% were spontaneous, 14% were due to foreign body ingestion, and 10% were traumatic. A particularly distinctive cause of spontaneous esophageal rupture is a violent vomiting episode (ie, Boerhaave syndrome). The rupture is typically located in the left posterolateral esophagus, near the left diaphragmatic crus (8).

Although Naclerio's V sign was originally described in patients with esophageal rupture, it is not entirely specific to that condition (3). Regardless, the presence of Naclerio's V sign in an appropriate clinical scenario may provide an early radiologic clue to the presence of esophageal rupture.

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