A 61-year-old man who underwent gastric bypass surgery 4 years earlier presented at the emergency department with acute interscapular pain. His cardiac enzymes were normal, and an ECG examination showed concave ST-segment elevations in the inferior area (II, III, and aVF), suggestive of acute pericarditis.

An initial plain chest radiograph revealed the presence of air between the left heart shadow and the pleura, highly suggestive of a pneumomediastinum (Figure 1).1

A subsequent computed tomography examination confirmed a pneumopericardium with an air-fluid level in the pericardial space (Figure 2). At this moment, the spectrum of findings gathered thus far pointed to a high clinical suspicion of a low-esophageal or high-gastric rupture.1,2 Because of the fear of inducing a cardiac tamponade by performing a transesophageal ultrasound of the heart, the patient was again referred for a second computed tomography examination several hours later that night.2 To improve the detection of a potential esophageal or gastric rupture, this new computed tomography scan was performed 30 seconds after oral ingestion of a water-soluble iodinated contrast agent.3–6

In this second computed tomography examination, pericardial fluid with a now abnormally high density was seen in addition to the previous findings (Figure 3), indicating passage of the orally ingested contrast agent into the pericardium.4,5 Further close examination of the computed tomography images revealed a contrast-filled fistula between the gastroenteric anastomosis and the pericardium (Figures 4 and 5).

These findings were subsequently confirmed by direct gastroscopy, during which a perforated ulcer in the stomach pouch was identified as the entry point of the fistula.2 The patient underwent successful surgical closing of this gastropericardial fistula and was discharged 2 weeks later after an uneventful recovery. To the best of our knowledge, only 1 previous report has described a pneumomediastinum caused by a gastropericardial fistula long after gastric bypass surgery.6

We point out this possible complication after elective obesity surgery because this patient population has a long-term survival after surgery.

Disclosures

None.

References

Figure 1. Plain posterior-anterior (PA) and lateral chest radiograph shows the presence of air (arrow) between the pleura and left border (PA) and anterior (lateral) of the heart.

Figure 2. Axial computed tomography examination of the thoracic space after the injection of intravenous contrast shows the presence of air in the pericardial space (arrow), visible with a soft tissue window (A) and more clearly visible with a lung window (B).

Figure 3. Axial computed tomography examination of the thoracic space after the injection of intravenous contrast and ingestion of oral contrast shows the presence of air in the pericardial space (B, black arrow) and an air-fluid level with an abnormally high fluid density (A, white arrow).
Figure 4. Coronal reconstructed computed tomography examination shows a fistula between the pericardial space and stomach pouch with oral contrast flowing in the pericardial space (black arrow). Note also the presence of air in the pericardial space (white arrowhead) and in the pericardial recess (black arrowhead) and the presence of high-density pericardial fluid.

Figure 5. Sagittal maximal-intensity projection reconstructed computed tomography examination shows the fistula with oral contrast flowing from the pouch in the pericardial space (white arrow). Note also the presence of air in the pericardial space and recess (white arrowheads).
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