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Death Related to Fistulas Involving the Gastrointestinal and Cardiovascular Systems

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BACKGROUND

Gastrointestinal tract fistulas are relatively uncommon and can be congenital or acquired. Fistulas may communicate with a variety of anatomic locations, including body cavities, the skin, and other organ systems. Acquired fistulas which communicate with the cardiovascular system are of particular concern, as they may be associated with significant morbidity and mortality. This study reports on 3 cases of acquired, post-surgical fistula formation involving the gastrointestinal and cardiovascular systems.

CASE #1

A 57-year-old man experienced sudden cardiac death shortly after having a permanent pacemaker placed for atrial fibrillation. Approximately 2 years earlier, he underwent surgical resection of his esophagus for cancer, and he had a diaphragmatic hernia repair several weeks before death. He also had hypertensive and atherosclerotic cardiovascular disease and emphysema. At autopsy, the cause of death was determined to be upper gastrointestinal tract hemorrhage due to a gastro-left atrial fistula which developed as a complication following the esophagectomy for esophageal cancer.

CASE #2

A 67-year-old female with severe chronic obstructive pulmonary disease (COPD), as well as a thoracic aortic aneurysm for which she had undergone aortic reconstruction with graft placement, presented to the hospital with massive hematemesis associated with breathing difficulties. Prior to dying, an upper endoscopy revealed a probable esophageal fistula thought to be communicating with the respiratory system. At autopsy, the fistula was found to be communicating with the aorta.

CASE #3

A 51-year-old woman was found unresponsive at home. All resuscitative efforts were unsuccessful. The case was referred for medicolegal autopsy. She had a past history of COPD, gastric bypass surgery, and relatively recent bacterial pericarditis, which required drainage and antibiotic therapy. Autopsy revealed the presence of a gastric fistula involving and traversing the left hemidiaphragm to involve the posterior wall of the left ventricle of the heart. Approximately 500-1000 mL of dark blood intermixed with gastrointestinal contents was present within the stomach and proximal small intestines, but no fresh-appearing hemorrhage was evident.

DISCUSSION / CONCLUSION

Postoperative gastrointestinal-cardiovascular fistulas are relatively rare, but can result in significant morbidity and mortality. They may develop following gastrointestinal tract or cardiovascular surgery. Clinicians are advised to be aware of these rare, but often fatal, post-operative complications.