H80 Acute Gastric Dilatation After Binge Eating: Overlapping Complications Determining a Race Against Death

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Learning Overview: After attending this presentation, attendees will have meaningful insights on sudden death due to acute gastric dilatation, a condition frequently associated with eating disorders and often difficult to prevent.

Impact on the Forensic Science Community: This presentation will impact the forensic science community through the report of fatal complications related to acute massive gastric dilatation subsequent to a binge-eating episode.

Acute gastric dilatation is a rare condition usually related to mechanical obstruction, neurological syndromes, or binge eating episodes. Although the stomach is known for being densely vascularized and resistant to ischemia, in rare cases the massive distension can cause a remarkable increase in intraluminal pressure and a significant vascular compression leading to circulatory insufficiency. Such a condition is usually followed by two main life-threatening complications: gastric wall necrosis and perforation.

This report presents the case of a 30-year-old woman with a clinical history of eating disorder who was transported to the emergency department with severe acute abdominal pain. Radiologic investigations documented subcutaneous emphysema, gastric dilatation, and a minimal layer of free air along the smaller gastric curvature. In light of these findings, emergent surgical intervention was requested. Despite the prompt diagnosis, the patient developed bradycardia and went into cardiac arrest refractory to resuscitation efforts just before reaching the operating room.

At autopsy, opening of the thoracoabdominal cavities revealed significant distension of the stomach, which occupied almost the entire left side of abdomen, displacing the small intestine. Prior to evisceration, 1,000cc of semi-liquid material that appeared consistent with gastric contents was recovered from the thoracoabdominal cavities. The stomach contained more than 3,000cc of partially digested material and was found to have a perforation along the smaller curvature. As a collateral finding, a prolapsed rectum extending about 15cm in length beyond the anus was found.

In this case, the huge food intake during a binge eating episode led to the development of acute massive dilatation of the stomach complicated by perforation. The peculiarity of the described case consists in the concomitance of multiple overlapping pathological conditions, which caused the death of the subject. Specifically, in addition to stomach perforation, abnormal gastric dilatation caused severe bradycardia—probably attributable to vagal stimulation—that resulted in irreversible cardiac arrest.

In conclusion, the rapid evolution of an infrequent disease and the superimposition of different pathological mechanisms precluded antemortem therapeutic interventions, thus requiring autopsy investigation to make a definitive diagnosis.

Acute Gastric Dilatation, Gastric Perforation, Binge Eating

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