Perforation of benign peptic ulcer in hiatal hernia into the pericardium, resulting in pneumopericardium

A 57-year-old woman with a medical history of hiatal hernia, peptic ulcer disease, alcoholism, and schizophrenia was admitted to the emergency department with epigastric pain and fever. The patient had not been taking her prescribed proton pump inhibitors.

A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful. The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium.

A gastrotomy was made during laparotomy. A fistula to the pericardium was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration. A peptic ulcer perforation (1.5 cm) in the hiatal hernia sac was discovered during gastroscopy, and an attempt to close the perforation with metal clips was unsuccessful (Video 1). The patient’s general state became more severe following gastroscopy. Tachycardia with atrial fibrillation, dyspnea (systolic blood pressure <60mmHg), and hypotension (systolic blood pressure <80 %), fibrillation, dyspnea (saturation <80 %), and hypotension (systolic blood pressure <60mmHg) occurred. The patient was referred for surgery with suspicion of pneumopericardium. A tissue sample was taken from the ulceration.

Gastroscopy with an unsuccessful attempt to close the perforation with metal clips.

Video 1

Gastroscopy with an unsuccessful attempt to close the perforation with metal clips.

A gastroscopy was made during laparotomy. A fistula to the pericardium was located and directly sutured. A tissue sample was taken from the ulceration. A cardiothoracic team performed pericardial drainage, which was complicated by the rupture of the fragile, inflamed wall of the right ventricle. Suturing of the right ventricle through the sternotomy was performed. The patient died 36 hours later due to multiorgan failure.

Massive fibropurulent pericarditis was diagnosed in the autopsy. Specimens from the ulceration showed only fibrosis and inflammation with no trace of malignancy.

Peptic ulcer perforation located in the hiatal hernia sac with pneumopericardium is a very rare complication of benign hiatal hernia to the pericardium. Acta Med Scand 1983; 213: 225 – 226


Endoscopy_UCTN_Code_CCL_1AB_2AD_3AC

Competing interests: None

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DOI: http://dx.doi.org/10.1055/s-0034-1377437
Endoscopy 2014; 46: E423
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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