Respiratory distress during endoscopy – report of an unusual case

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Summary: A 30 year old man developed severe respiratory distress during upper gastrointestinal endoscopy. He had a short oesophagus and part of the stomach was intrathoracic. Air-insufflation during endoscopy caused distension of the stomach inside the chest leading to respiratory distress. When part of the stomach is intrathoracic, the endoscopist should be cautious and the possibility of respiratory embarrassment kept in mind during air-insufflation.

Introduction

Respiratory distress is a well recognized complication following upper gastrointestinal endoscopy, over-sedation and underlying pulmonary disease being the major causes.¹ We report an unusual cause of respiratory distress during endoscopy.

Case report

A 30 year old man was referred to us for an open access endoscopy with a suspected diagnosis of duodenal ulcer. For the past 5 years he had had post-prandial abdominal discomfort, epigastric pain and acid eructation. Three years ago a barium meal study and chest X-rays had shown a sliding hiatus hernia.

The patient underwent an upper gastrointestinal endoscopy with an Olympus GIF-D₃ endoscope under local anaesthesia and intravenous diazepam. The scope was passed easily into the oesophagus with the usual air-insufflation, but on reaching the middle of the oesophagus the patient suddenly became restless, dyspnoeic and cyanosed. The endoscope was withdrawn. On examination the patient had mediastinal shift to the right and absent air entry on the left side. Oesophageal perforation was suspected. Chest X-ray showed a large air fluid level in the left hemithorax with mediastinal shift to the right (Figure 1). Nasogastric suction did not relieve the distress. As the patient was deteriorating he was subjected to an emergency thoracotomy. The left lung was collapsed. The oesophagus was short, stopping 6–7 cm above the hiatus. The major part of the stomach was distended and was

Figure 1 Chest X-ray immediately after endoscopy. Distended stomach in the left hemithorax pushing the mediastinum to the right.

inside the left hemithorax. The rest of the stomach extended through the hiatus into the abdomen. The diaphragm was normal. The stomach could not be reduced into the abdomen because of the short oesophagus. The stomach was decompressed and the chest was closed.

Discussion

This case is presented to highlight one of the hazards of endoscopy. This patient had a short oesophagus and a sliding hiatus hernia. When air insufflation was done, the stomach, which was partly intrathoracic, disten-

ded and pressed on the left lung producing respiratory distress. Air-insufflation during endoscopy is known to produce occasional problems² but respiratory distress due to air-insufflation has not been described so far. Diaphragmatic hernia is not a contraindication for endoscopy. But when the herniated organ is the stomach air-insufflation can lead to distension of the stomach and respiratory distress. When a significant part of the stomach is intrathoracic it should be considered a relative contraindication for upper gas-

trointestinal endoscopy. If endoscopy is to be done air-insufflation should be done very carefully. In case of any respiratory embarrassment it will be advisable to suck out air through the endoscope. Structural abnormalities usually increase the risk of perforation. Underlying pulmonary disease and over-sedation are the factors which increase the risk of respiratory failure.³ In the case reported here a structural abnormality led to respiratory distress.

References

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