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# A patient with sudden pain in the upper abdomen accompanied by vomiting

R.J. Hop-de Groot<sup>1\*</sup>, M.R. Groenendijk<sup>1</sup>, S.P. Strijk<sup>2</sup>, J. Deinum<sup>1</sup>, S.J.H. Bredie<sup>1</sup>

Departments of <sup>1</sup>Internal Medicine and <sup>2</sup>Radiology, Radboud University Nijmegen Medical Centre, Nijmegen, the Netherlands, \*corresponding author: tel.: +31 (0)24-361 65 04, fax: +31 (0)24-361 65 19, e-mail: r.j.degroot@student.ru.nl

## CASE REPORT

An 82-year-old woman presented to the emergency department with pain in the upper abdomen. The pain had developed suddenly the day before and was accompanied by nausea and vomiting. The days beforehand, her oral food intake had been less because of decreased appetite. Although the patient had no recent complaints of heartburn or regurgitation, she had had documented stomach complaints accompanied by nausea and vomiting for a longer period. Furthermore, she had a history of chronic obstructive pulmonary disease, microcytic anaemia of unknown origin, osteoporosis, diverticulosis of the sigmoid and knee surgery. She was not on any medication at that moment. On physical examination she was moderately ill, drowsy and pale. Blood pressure was 208/100 mmHg, pulse rate 100 beats/min. and body temperature 36.4°C. Her abdomen was markedly distended and on prolonged auscultation we could not detect bowel sounds. There was tenderness in the upper abdomen. On rectal examination brown faeces, without blood or melaena, were collected. Blood tests revealed a C-reactive protein level of 13 mg/l,  $11.9 \times 10^9$  leucocytes,  $156 \times 10^9$  thrombocytes, haemoglobin level of 9.4

mmol/l, sodium 139 mmol/l, potassium 3.2 mmol/l, chloride 107 mmol/l, urea 8.1 mmol/l, creatinine 78  $\mu$ mol/l, alkaline phosphate 115 U/l, ASAT 28 U/l, ALAT 13 U/l,  $\gamma$ GT 24 U/l, LDH 411 U/l, glucose 13 mmol/l, bicarbonate 20.5 mmol/l and lactate 1.2 mmol/l.

A supine chest X-ray (*figure 1*) was taken. An attempt to put a transoesophageal drain into the stomach was not successful because the distal oesophagus could not be passed. On the second day after admission to the hospital the patient suddenly developed dyspnoea, a temperature of 38.2°C, low blood pressure and a drop in oxygen saturation. She frequently vomited small amounts of dark-brown fluid. A second attempt was made to insert a drain into the stomach, which fortunately was successful and about four litres of dark fluid stomach contents could be aspirated. After this episode, contrast was given through the drain and intravenously and a computed tomography (CT) scan of the thorax was carried out (*figure 2*).

## WHAT IS YOUR DIAGNOSIS?

See page 260 for the answer to this photo quiz.

Figure 1. Chest X-ray in bed

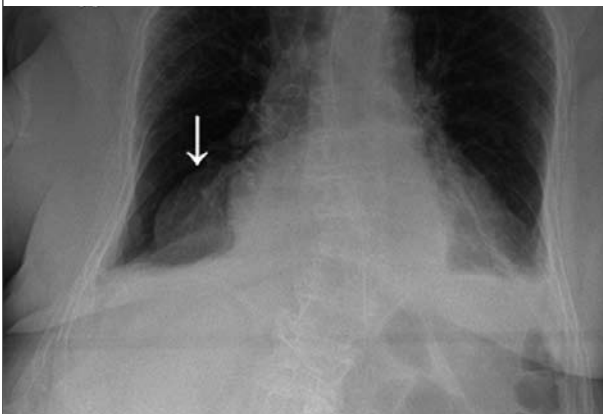


Figure 2. A transverse contrast-enhanced CT scan of the chest



ANSWER TO PHOTO QUIZ (ON PAGE 258)

A PATIENT WITH SUDDEN PAIN IN THE UPPER ABDOMEN ACCOMPANIED BY VOMITING

DIAGNOSIS

The chest X-ray shows a paramediastinal shadow at the right lower thorax. This corresponds with a very large paraoesophageal hernia on the right side of the diaphragm. Paraoesophageal herniation is an uncommon disorder accounting for approximately 3 to 10% of all hernias of the oesophageal hiatus.<sup>1</sup> Ninety-five percent of hernias are on the left side, because of the congenital weakness on that side.<sup>2</sup> Paraoesophageal hernias can be distinguished from the more common sliding hiatal hernia by the relative preservation of the gastro-oesophageal junction in the abdomen.<sup>1,3</sup> In our patient, a CT scan confirmed that part of the stomach was extending into the right side of the thorax (arrow, *figure 1*). The CT scan (*figure 2*) showed a distended fundus of the stomach that was still situated under the diaphragm; the distal part of the stomach and the proximal part of the duodenum, however, were localised on the right side of the thorax. Due to sudden extension of the herniated distal part of the stomach into the right side of the thorax, we hypothesised that the right atrium was significantly compressed, causing obstructed inflow of the heart. Due to diminished ventricular filling, pulmonary and systemic circulation were seriously compromised explaining the hypoxaemia and low blood pressure. A reconstruction of the CT scan shows the flip-flopped stomach from the frontal view (*figure 3*). Support for our hypothesis was that the patient recovered after removal of four litres of fluid from her stomach.

The patient underwent median upper laparotomy to bring the stomach back into the normal position. The diaphragm was repaired and gastropexy was performed. After a short two-day postoperative period on the intensive care unit, she recovered well and was soon discharged home.

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Figure 1. Chest X-ray in bed

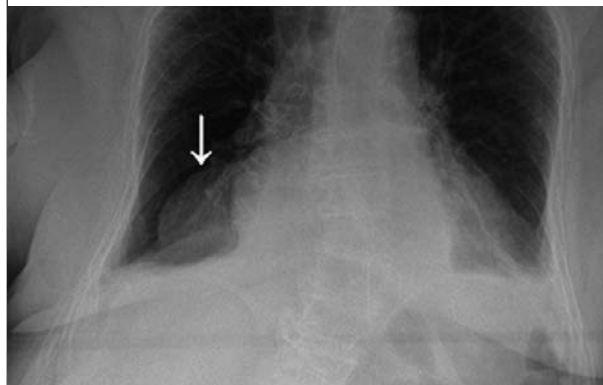


Figure 2. A transverse contrast-enhanced CT scan of the chest



Figure 3. Coronal reconstruction of the CT scan, showing the distal part of the stomach in the chest (1) and the proximal part of the stomach in the abdomen (2)

