A 91-year-old woman presented to the medical admissions unit complaining of repeated episodes of vomiting and consequent dehydration.

The patient had first presented with vomiting 8 years earlier, at which time gastritis had been diagnosed clinically and treated with oral proton-pump inhibitors. Three months before this admission, she had undergone an outpatient gastroscopy examination, which revealed extrinsic compression at the mid-stomach, giving the impression of a large hiatus hernia with diaphragmatic constriction (Figure 1). The endoscopist was unable to pass the scope beyond the pylorus and raised the possibility of a torsion or rotation.

On this admission, clinical examination revealed a large long-standing paraumbilical hernia, but was otherwise unremarkable. Blood tests showed a normal full blood count and differential, electrolytes and clotting profile.

Abdominal radiography (Figure 2) demonstrated a rounded soft tissue density projected over the right hemi-pelvis, consistent with the clinically detected paraumbilical hernia.

A subsequent computed tomography (CT) scan revealed the umbilical hernia to contain the distal stomach, pylorus and first part of the duodenum (Figure 3). At the D2 level, the duodenum passed back through the abdominal wall to its more usual retroperitoneal position. There was no hiatus hernia and the remainder of the small and large bowel were normal.

The umbilicus is a common site of hernias; these usually involve omentum and the large and/or small intestine. Herniation of the stomach through the
umbilicus is extremely rare with only two cases reported in the literature in the past 40 years.\(^1\),\(^2\) The case presented here is the first published case to be diagnosed by CT. Previously, plain radiography or barium studies were predominantly used in confirming the presence of abdominal wall hernias.\(^3\) Currently, CT is the predominant imaging modality with advantages including the more accurate identification of the hernial contents, recognition of associated masses (if present) and detection of complications (incarceration, strangulation and obstruction).\(^4\)

Umbilical hernias are seen mostly in middle-aged and elderly females in whom intra-abdominal pressure from pregnancy or obesity causes defects at naturally weak areas.\(^5\) The stomach is rarely involved as this is relatively fixed within the upper abdomen by numerous ligaments including the gastrohepatic, gastrocolic and gastroplenic. Further, the stomach is anchored superiorly by the oesophagus and inferiorly by the duodenum.\(^5\) These ligamentous attachments can become lax in the elderly, allowing the stomach a little more mobility within the abdominal cavity, as in the case presented here.

This case illustrates the usefulness of cross-sectional imaging in situations where treatment is unsuccessful or if more unusual diagnoses are involved. In retrospect, the ‘extrinsic compression’ of the stomach on endoscopy and visible abdominal wall herniation point to a herniated stomach. However, as this finding is very rare, we feel it would be unreasonable to expect this diagnosis to be made in the first instance without further imaging. The patient has since been managed conservatively with antiemetic medication to good effect.

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References