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Spontaneous epigastric hernia causing gastric outlet obstruction: a case report

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Summary

Epigastric hernia, a rare form of ventral abdominal hernia, accounts for 0.4 – 1.5% of all abdominal wall hernias. It usually occurs in middle – aged individuals and is rarely large enough to admit more than a small amount of extra-peritoneal fat. In this case report, we present a 64 years old woman with 6 days history of sudden onset of painful epigastric swelling associated with acute gastric outlet obstruction. We did not find a previous report of a similar case in the medical literature.

Keywords: Epigastric, hernia, gastric outlet obstruction

Résumé

L'hernie épigastrique est une rare forme d'hernie ventrale abdominale s'estime à 0.4 – 1.5 % des cas d'hernie abdominales. Cette maladie est régulière aux individus d'âge moyen et souvent difficile d'admettre plus qu'une petite quantité de graisse extra-peritoneale. Dans ce rapport, nous présentons une femme de 64 ans ayant une histoire de 6 jours d'épigastrique douloureuse associée à une obstruction extérieure gastrique

Introduction

Epigastric hernias are due to small defects in the *linea alba*. It was first described in 1742 by LeDran [1] and the first successful repair was done in 1802 [1]. Epigastric hernias occur in 5% of individuals at autopsy [2]. About 20% of these individuals have multiple hernias [2]. Epigastric hernias constitute 0.4-1.5% of abdominal hernias and 8% of midline ones [2]. They are often small, usually 1.5cm to 2.5cm in dimension and usually contain pre-peritoneal fat. They are occasionally associated with pain from strangulating preperitoneal fat, dyspepsia or pulling on a portion of the stomach. Voluminous epigastric hernia of dimension 5-10cm may occur but they are rare [2]. Even when they occur, they are not usually associated with clinical features other than a midline upper abdominal mass.

Case Report

O.D., hospital No 1042387, a 64 years old postmenopausal, Para 6^o, 5 alive, trader presented in December 2003 with 6 days history of sudden onset of painful, irreducible, hemi-

spherical, epigastric swelling which started while she was eating. It was associated with colicky epigastric pain and postprandial, projectile, non-bilious vomiting which started few hours after the onset of the swelling.

On examination, she was in obvious painful distress. Her tongue was dry and her skin turgor was mildly diminished. Her pulse was 96 beats per minute, small volume and regular. Her jugular venous pressure was not raised and only the first and second heart sounds were heard, but no added sounds.

Her abdomen was full and moved with respiration. There was a non-pulsatile, midline, hemispherical epigastric swelling that measured 10 x 12cm. The lower margin was about 6cm superior to the umbilicus. It was firm to touch, tender and not mobile. It was not reducible, not compressible and not attached to the overlying skin. The rectal examination was normal and there was no significant finding in the examination of the other systems. We made a diagnosis of irreducible epigastric hernia associated with acute gastric outlet obstruction.

She was resuscitated with intravenous fluid administration and electrolyte imbalances were corrected. Her abdominal ultrasound scan showed an anterior abdominal wall mass, which was seen to communicate with the stomach and increased in size with fluid intake. The mucosa pattern of the contained mass was similar to that of the stomach (Figure 1).

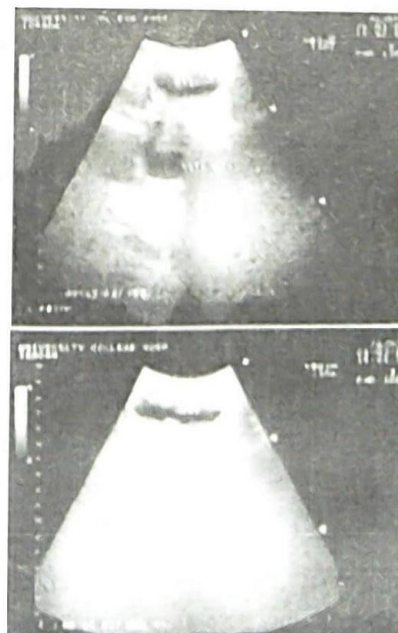


Fig. 1.: Abdominal ultrasound scan showing an anterior abdominal wall mass seen to communicate with the stomach

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We performed an emergency exploratory laparotomy and at surgery we found a hernia sac with an orifice measuring 8 x 6cm containing viable anterior and posterior walls of the antrum of the stomach. There was a gangrenous segment of the greater omentum within the sac which was resected. The other hernia contents were reduced. We explored the *linea alba* to check for additional defects and there were none. We concluded with an exploration of the abdomen and simple vertical mass closure of the *linea alba* using 1-nylon suture. The skin was closed with "2 0"nylon. Her post-operative recovery was uneventful.

Discussion

Epigastric hernia is a relatively rare midline abdominal hernia. It was previously thought that it occurred through defects in the *linea alba* associated with blood vessels [3,4]. Others have suggested that tendinous fibers originating from the sternocostal portion of the diaphragm attach to the *linea alba* and vigorous contraction of the *rectus abdominis* muscles with an outward traction on the aponeurosis by the middle tendinous intersection can create defects in the *linea alba* [5]. However, the current consensus of opinion is that these defects are congenital; the result of failure of complete fusion of the *linea alba* [1,3,4].

Epigastric hernias are usually asymptomatic and when associated with symptoms at all, these usually arise secondary to herniation of a knuckle of pre-peritoneal fat [1]. In such instances, the patient presents with dragging epigastric pain and swelling. They may also have bradycardia, nausea and vomiting. Obesity, severe physical exertion, chronic obstructive uropathy and chronic cough increase the likelihood of symptomatic epigastric herniation [1].

Large epigastric hernias are uncommon. Lemonick reported a case of giant congenital epigastric hernia [5] that contained liver and small intestine while Pollock reported epigastric hernia [4] that contained the anterior wall of the stomach but there were no features of

gastric outlet obstruction. In this case report, the patient had an acute onset of epigastric hernia associated with gastric outlet obstruction, fluid and electrolyte imbalance. The sudden onset of the swelling suggests spontaneous rupture of the *linea alba*. In a search of Pubmed since 1966, we did not find any previous report of similar condition in the medical literature. The diagnosis was made clinically and supplemented by the ultrasound findings that suggested an incarcerated stomach. Operative repair was straightforward and uneventful.

In conclusion, the clinical feature of the case reported here showed that the etiology of epigastric hernia may be multifactorial. The fact that there was no pre-existing epigastric swelling does not support the congenital defect theory of epigastric hernia as being proposed by some authority. The spontaneous nature of the case reported here is more in keeping with the theory of insertion of the tendinous fibre of the diaphragm into the *linea alba* with subsequent spontaneous rupture.

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