An ovary as unusual contents of an incarcerated umbilical hernia

U Ahmed¹, R Ahmed², S Kamat³, K Elkholy³

¹University College London, UK

²Homerton University Hospital NHS Foundation Trust, UK

³North Middlesex University Hospital NHS Trust, UK

ABSTRACT

We present the unusual case of a woman presenting with an incarcerated umbilical hernia. Intraoperatively, the contents of the hernia were found to be an ovary. We outline the clinical presentation of our patient, investigations and management as well as a discussion on unusual contents of umbilical hernias. To our knowledge, this is the first case of a non-malignant ovary incarcerated in an umbilical hernia.

KEYWORDS

Hernia – Umbilicus – Surgical mesh – Ovary

Accepted 6 September 2013; published online XXX

CORRESPONDENCE TO

Usama Ahmed, E: usama.x@hotmail.fr

Umbilical hernias are common, occurring in 10% of all infants.¹ In adults, however, they often represent an acquired defect, possibly related to intra-abdominal pathology. We present our own experience of unusual contents of an umbilical hernia, its management and a brief literature review.

Case History

A 45-year-old nulliparous woman of Zimbabwean origin presented to our emergency department complaining of a 5-day history of an increasingly tender, swollen, irreducible mass at the umbilicus. On further enquiry, it transpired that this previously reducible mass had been present for approximately one year's duration, tender during her periods but otherwise asymptomatic. She reported regular, heavy periods with clots and flooding, and denied possible pregnancy. Her only past medical history was of a myomectomy for a uterine fibroid 11 years earlier. She denied a previous history of a childhood umbilical hernia. On systems review, she had no weight loss or loss of appetite. She had been opening her bowels normally, had not vomited, and was eating and drinking normally.

On examination, the patient was haemodynamically stable and clinically well. Her abdomen was distended and a tense umbilical mass visible with overlying inflammatory hyperpigmented skin changes. Palpation of the abdomen revealed a tender, irreducible umbilical mass with a negative cough impulse. Abdominal ascites were absent. An irregularly contoured, 20-week sized fibroid uterus reaching the umbilicus and more palpable in the right abdomen was discovered.

Blood tests revealed raised inflammatory markers and severe anaemia. The patient was transfused with two units of blood preoperatively and iron supplements were commenced. Erect abdominal radiography revealed no acute obstruction or perforation.

Our main differential diagnosis was that of an incarcerated umbilical hernia with a differential of an abscess. The patient was consented for repair of umbilical hernia and operated on later that evening. A curvilinear subumbilical incision was used to approach the hernia. A true umbilical hernia coming through the umbilical stalk was visualised. The hernial sac was opened at the neck to reveal an ovary (Fig 1). The ovary was seen to be viable and so reduced through the defect. The defect was closed with an onlay polypropylene mesh and a suction drain left in situ. Postoperative ultrasonography showed multiple uterine fibroids with the largest measuring 8.6cm in diameter (Fig 2). The patient was discharged the next day following an uneventful postoperative stay and will be followed up by the gynaecologists for treatment of her fibroids.

Discussion

Umbilical hernias can be classified by onset of presentation: during childhood or adulthood. They can further be divided into true umbilical hernias, where the defect comes through the umbilical cicatrix, or paraumbilical, where the defect normally lies superiorly or inferiorly to the umbilicus.¹

Infantile umbilical hernias represent failure of umbilical vessels, urachal remnant and umbilical ring to condense into the umbilical cicatrix.² The majority of these regress

Figure 1 Intraoperative view of ovary protruding through umbilical defect

and close spontaneously; few require operative intervention. Adult umbilical hernias, conversely, are acquired defects in 90% of cases.³ They are more common in women with increased intra-abdominal pressure linked in the aetiology of the condition.¹ With a larger defect, contents are less likely to strangulate.

Several unusual contents of umbilical hernias have been reported. Different intra-abdominal organs have been found. These include bowel contents such as Meckel's diverticulum and an appendix, a bladder, and contents of the reproductive system such as uterine fibroids, a giant ovarian tumour and even a gravid uterus.^{4–7} Another phenomenon known as Sister Mary Joseph's nodule is the presence of a periumbilical mass from metastatic intra-abdominal or pelvic malignancy.⁸ One case series also found umbilical hernia and ascites to be presenting symptoms of ovarian malignancy.⁹

In our patient, the uterus was tilted grossly to one side and therefore more palpable in the right abdomen. The combination of increased intra-abdominal pressure and the uterus tilted to one side placed the ovary in close proximity to the umbilical defect. The ovary, in turn, herniated through this defect, becoming incarcerated and leading to the emergency presentation of our patient as detailed above. To our knowledge, our case is the first non-malignant ovary incarcerated in an umbilical hernia.

Figure 2 Postoperative ultrasonography of partially calcified uterine fibroid measuring 8.6cm in diameter

The management of umbilical hernias was first popularised in the early 1900s by the American surgeon William Mayo, who advocated 'vest-over-pants' fascial repair.¹ This has been superseded by a tension-free onlay mesh repair, now the treatment of choice in elective and emergency umbilical hernia repair.^{5,10} Arroyo *et al's* randomised trial of suture versus mesh repair found significantly decreased rates of hernia recurrence with mesh repair and similar rates of early complications reported for both techniques.⁵

Conclusions

Adults presenting with a new-onset umbilical hernia should be assessed carefully for the cause of their hernia as preoperative assessment may reveal a more sinister underlying diagnosis.

References

1. Salameh JR. Primary and unusual abdominal wall hernias. *Surg Clin North Am* 2008; **88**: 45–60.
2. De Beaux AC. Abdominal Hernias. In: Paterson-Brown S. *Core Topics in General and Emergency Surgery*. 4th edn. London: Saunders; 2009. pp57–80.
3. Arroyo A, García P, Pérez F *et al*. Randomized clinical trial comparing suture and mesh repair of umbilical hernia in adults. *Br J Surg* 2001; **88**: 1,321–1,323.
4. Seims AD, Lube MW. Incarceration of a sessile uterine fibroid in an umbilical hernia during pregnancy. *Hernia* 2009; **13**: 309–311.
5. Karabulut Z, Aydin O, Onur E *et al*. Giant ovarian tumor presenting as an incarcerated umbilical hernia: a case report. *J Korean Med Sci* 2009; **24**: 539–541.
6. Sengul I, Sengul D, Avcu S, Parlak O. Gangrenous Meckel's diverticulum in a strangulated umbilical hernia in a 42 year-old woman: a case report. *Cases J* 2010; **3**: 10.
7. Mbuagbaw LC, Morfaw FL. Gravid uterus in an umbilical hernia. *Case Rep Obstet Gynecol* 2012; 439–489.
8. Steensma DP. Sister (Mary) Joseph's nodule. *Ann Intern Med* 2000; **133**: 237.
9. Millar RC, Geelhoed GW, Ketcham AS. Ovarian cancer presenting as umbilical hernia. *J Surg Oncol* 1975; **7**: 493–496.
10. Bessa SS, Abdel-Razek AH. Results of prosthetic mesh repair in the emergency management of the acutely incarcerated and/or strangulated ventral hernias: a seven years study. *Hernia* 2013; **17**: 59–65.