A Paediatric Hernia with a Twist: The Presentation, Imaging Findings and Management of a Strangulated Ovarian Hernia

Abstract:

Indirect inguinal hernias are the most commonly encountered congenital abnormality in infants. They may be complicated by herniation of abdominal or pelvic viscus. In girls, a herniated ovary is a relatively common finding, however torsion of the ovary is infrequent. A tender irreducible inguinal hernia in an infant girl should raise the possibility of a strangulated herniated ovary as it requires urgent surgical attention. When in doubt, ultrasound with colour Doppler easily confirms the diagnosis. Here we present the case of an ovarian inguinal hernia which had undergone torsion and review the presentation, imaging findings and management.

Case Report

A 4 month old girl presented to her local emergency department with a one day history of acute onset left inguinal swelling and a slight increase in possetting. A reducible left inguinal hernia had been diagnosed by her general practitioner two weeks earlier and a surgical outpatient appointment was pending. On examination, there was a tender irreducible left inguinal hernia. The infant was otherwise well with no significant past medical history. The patient was referred to a paediatric hospital for further specialist management. When examined by a paediatric surgeon, a tender, firm mass was appreciated in the left inguinal canal which was felt to represent a herniated ovary. Ultrasound revealed a 2.7 cm heterogeneous mixed echogenicity structure containing several small anechoic foci in keeping with an enlarged oedematous ovary. Despite careful colour Doppler interrogation, no flow could be demonstrated within the ovary. There was reactive hyperaemia and oedema of the surrounding soft tissues of the left inguinal canal. (Figure 1).

The patient proceeded directly to surgery. The hernial sac was opened and the ovary reduced without inspection. The hernial sac was transfixed and ligated. The child made a good post-operative recovery and was discharged home well the following day.

Discussion

Paediatric inguinal hernia may affect up to 4.4% of infants and 30% of premature infants. They are 5-6 times more common in boys and are almost always indirect. In females they are the result of failure of obliteration of the canal of Nuck, which usually closes by 8 months gestation. Inguinal hernias may contain intestines, fallopian tubes, uterus, ovaries or any combination of the above. The ovaries are involved in approximately 15-35% of female paediatric hernias. Figures for the incidence of torsion of a herniated ovary on its vascular pedicle are widely disparate ranging from 2%-43%. However this potential complication warrants urgent surgical fixation once a diagnosis has been made. The presentation depends on the presence or absence of torsion. An uncomplicated ovarian hernia is usually clinically obvious as a firm palpable mass within the inguinal canal and is often easily reducible. Sonographic appearance of an uncomplicated ovarian hernia are of a solid mass, hypoechoic to inguinal fat and containing anechoic follicles. The vascular pedicle can be traced proximally through the inguinal canal. The ipsilateral ovary will not be visible on ultrasound of the pelvis. Figure 2 shows an uncomplicated right ovarian hernia which was seen in a 2 month old girl who attended one week later.

The presence of an irreducible hernia containing a tender mass should raise the possibility of an incarcerated viscous, with ovary the most likely in an infant girl. The sonographic features are of an oedematous solid and cystic mass in the inguinal canal with absent internal blood flow. Surgery involves an open hernia repair with reduction of the involved ovary. The ovary does not need to be inspected for viability. Aziz (2004) demonstrated that simple detorsion of the ovary is not associated with any increase in morbidity. Furthermore, all patients in their study had some functioning ovarian tissue at follow up, regardless of the surgeons assessment of the degree of ischaemia at the time of surgery. Nonetheless, the risk of ovarian necrosis must be clearly explained to parents prior to surgery. Ovarian hernia is the most common cause of an irreducible female inguinal hernia in infants. It should be treated promptly as there is a significant risk of torsion. Physicians and radiologists should be aware of the clinical presentation and imaging findings in ovarian torsion and emergent surgical management is paramount.

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References


