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Case Report

Canal of Nuck incarcerated ovarian hernia in a female infant

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ABSTRACT

Background & Objective: Hernia of canal of Nuck is a rare condition, and complications like incarceration and strangulation may occur. We present a rare case of incarcerated ovarian hernia within the canal of Nuck diagnosed timely after ultrasound examination.

Presentation of case: A 4-month-old infant girl presented with a left inguinal swelling. On physical examination, there was an oval, non-mobile swelling. Ultrasound examination revealed an incarcerated ovarian hernia with internal doppler flow and immediately sent to surgery department.

Discussion: Canal of Nuck is the persistent inguinal processus vaginalis in female. Failure of obliteration of this canal leads to outpouching of intraperitoneal content into this canal. This persistent canal can contain fluid, omentum, fallopian tube, ovary, uterus and even urinary bladder. Ultrasound examination is handy in examining inguinal canal.

Conclusion: Awareness of Canal of Nuck hernia is important for differential diagnosis and ultrasound examination for correct diagnosis and complication prevention.

Keywords: Canal of Nuck, Ovary, Ultrasound, Hernia, Incarceration, Infant

INTRODUCTION

Canal of Nuck is an inguinal part of processus vaginalis in females. It normally obliterates in a craniocaudal direction by the first year of life. Complete or incomplete failure of closure of this canal results in herniation of intraperitoneal content into the canal [1]. Hernia of canal of Nuck is a rare presentation and ovary as its content is rarer [2]. Here we present such a case in a 4-month-old infant.

CASE REPORT

A mother brought a 4-month-old infant in pediatric OPD, with a left inguinal swelling, she noticed a week back. The swelling did not increase in size and no change was noticed during child crying or massaging. There was no history of fever or vomiting. On physical examination, there was a swelling with normal overlying skin,oval, measuring ~1.5x1cm, solid consistency in left inguinal canal that was non-mobile, not fixed to overlying skin. Her abdomen and pelvis were soft, nondistended with normal bowel sound. Laboratory examination was insignificant.

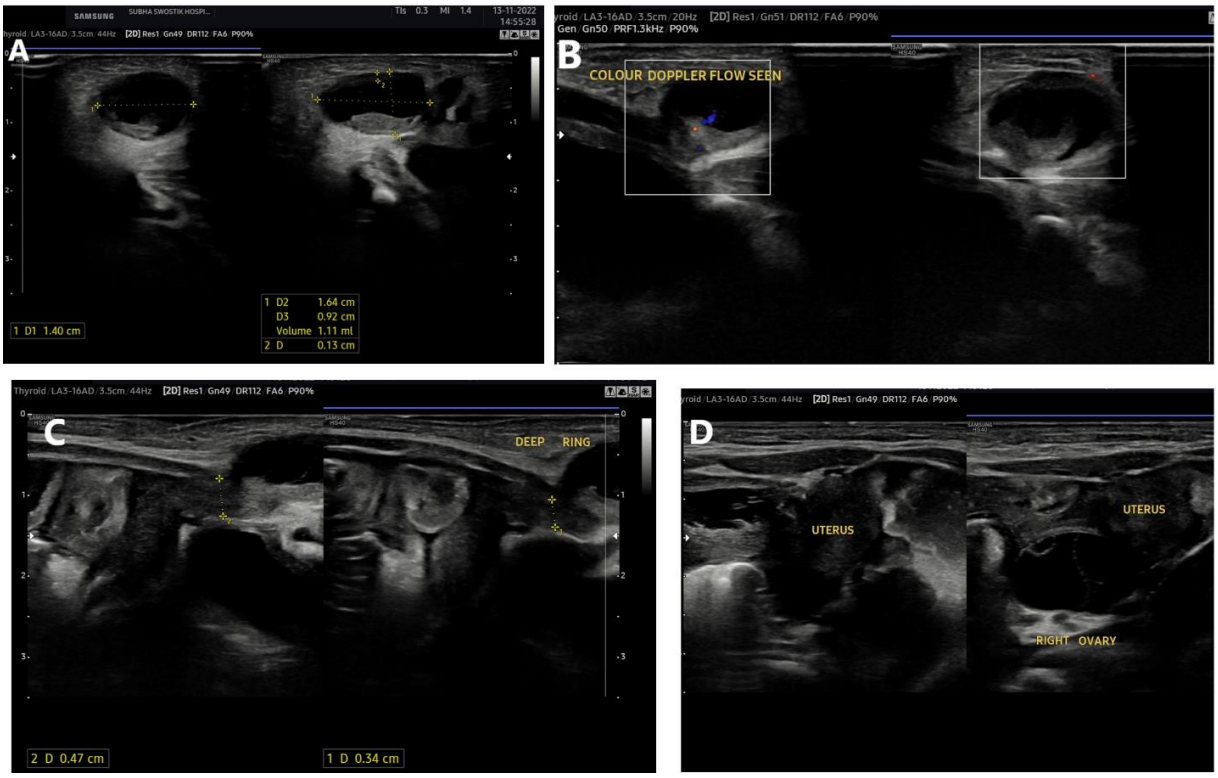

Figure 1 : Ultrasound picture A-D. A, Showing left ovary in inguinal canal. B, Color flow within left ovary. C, Deep ring defect with adjacent ovary in the inguinal canal. D, Uterus and right ovary within pelvic cavity

Ultrasound examination was done in radiology department to rule out inguinal pathologies like lymphadenopathy, lipoma, cyst, hydrocele or hernia. The patient was examined during a LA3-16AD linear array transducer on Samsung HS40 ultrasound machine. The superficial study showed a sac, herniating through left deep ring defect, measuring ~4.7x3.4mm, with a multicystic lesion in inguinal canal measuring ~14x16.4x9.2mm, 1.1cc, consistent with ovary (Figure 1). Color doppler examination showed normal blood flow in the herniated ovary. The left ovary was non-reducible in probe pressure. The uterus and right ovary were visualized in pelvic cavity. Final diagnosis of incarcerated ovarian hernia of left canal of Nuck was made.

DISCUSSION

Canal of Nuck hernia is rare finding in pediatric population, and results from incomplete closure of inguinal part of processus vaginalis by 8th month of gestation, leading to open canal of Nuck, through within intraperitoneal content protrudes, resulting in hernia after birth [1]. Among female population, canal of Nuck hernia is more common in pediatric age group and in older age group if present can be associated with mullerian duct anomalies [3].

The canal of Nuck hernia can contain fluid, omental fat, fallopian tube, ovaries to even uterus and urinary bladder [4]. Inguinal hernia are at risk of incarceration and incarcerated hernia are at greater risk of strangulation following impairment of vascular and lymphatic supply within the canal[5]. So, timely diagnosis of canal of Nuck hernia is very important and ultrasound examination is best to visualize the herniated content and its doppler vascularity for timely surgical intervention to salvage herniated content like ovary [6,7].

CONCLUSION

Canal of Nuck hernia is a rare finding due to congenital closure defect, diagnosed during ultrasound examination. Early ultrasound can diagnose hernia from other differentials and help in timely surgical intervention to prevent further complications.

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Conflict of interest

None declared

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