Case Report

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Hernia of Canal of Nuck

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Abstract

Introduction: Inguinal hernia in females is quite rare and is diagnosed late due to the rarity of this condition and hence lack of awareness. Hernia of canal of nuck can be managed by various methods but Non-mesh repair still remains to be the best choice of repair as transversalis fascia in females is stronger than in males. *Presentation of Case:* A 50 year old female presented with a swelling in the left inguinal region since 3 years and irreducible since 7 days. Patient was diagnosed to have irreducible hernia of canal of nuck which was explored and knotted omentum was found as content. Defect was repaired by Bassini's method. *Discussion:* The diagnosis of Hernia of Canal of Nuck is based on clinical presentation, physical findings and ultrasonography is a useful tool to detect the content of inguinal hernia. Many surgical treatment modalities are available these days like tension free prosthetic repairs, laparoscopic repair (totally extraperitoneal/transabdominal preperitoneal) and tissue suture repair such as Bassini and Shouldice technique. Non-mesh repair is justifiable in female patients as transversalis fascia is strong compared to men. *Conclusion:* Even without the signs of any complication this type of hernia should be managed promptly with early surgical intervention such as tension free prosthetic repairs, laparoscopic repair (totally extraperitoneal/transabdominal preperitoneal) and tissue suture repair such as Bassini and Shouldice technique.

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Introduction

Inguinal hernia in females is quite rare, as compared to males. In females, inguinal hernia is not diagnosed early due to the rarity of this condition and hence lack of awareness amongst general practitioners. Canal of nuck is an extension of the peritoneal fold through the inguinal canal into the labia majora. Defect in obliteration of this fold leads to herniation of contents from the abdominal cavity. Hernia of canal of nuck is a rare entity with little said about it in literature. We present a case of a 50 year old female who presented to us with a left inguinal irreducible swelling since 3 years. Bassini's repair was done for the patient.

Inguinal hernias are rare in females [1]. The canal of Nuck is a peritoneal fold extending to labia majora in women through the inguinal canal, which accompanies round ligament of uterus [2].

In females, the indirect inguinal hernia is due to congenital weakness at the deep inguinal ring. The canal of Nuck, first described by Anton Nuck (de) in 1691, is an abnormal patent pouch of peritoneum extending into the labia majora of female. It is analogous to a patent processusvaginalis in males. Female inguinal hernia is caused by a failure of obliteration of the canal of Nuck [3].

The female inguinal hernial sac in about 15-20% cases contain ovary and fallopian tube [4].Female inguinal Hernia sac in few cases contain the both ovaries and the uterus [5].

The Incidence of female inguinal hernia is 1.9%. The Male: Female ratio for inguinal hernias is 7:1 [1,6].

Inguinal hernia on the right side being presented in 68.1%, on the left side in 23.4% and bilateral in 8.5% [7].

We present an interesting case of hernia of canal of nuck for which bassini's repair was done.

Case Report

A 50-year-old female (P2L1D1) farmer by occupation presented with a tender palpable swelling in the left inguinal region of 3 years duration. Swelling was insidious in onset, initially spontaneously reducible and had become irreducible since 7 days.

She had hypertension since 2 years and no other past medial or surgical history. A 4 cm × 3 cm pyriform shaped swelling, with absence of cough impulse was seen in the left inguinal region, which was soft, tender, and irreducible.

Fig. 1: Inguinal irreducible swelling

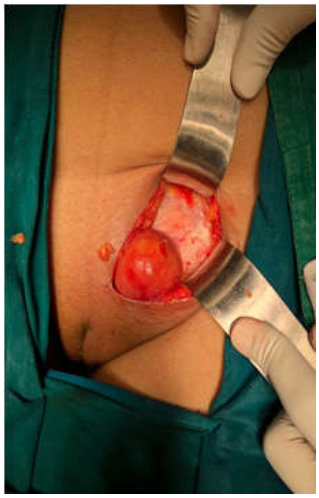

Fig. 2: Indirect irreducible sac

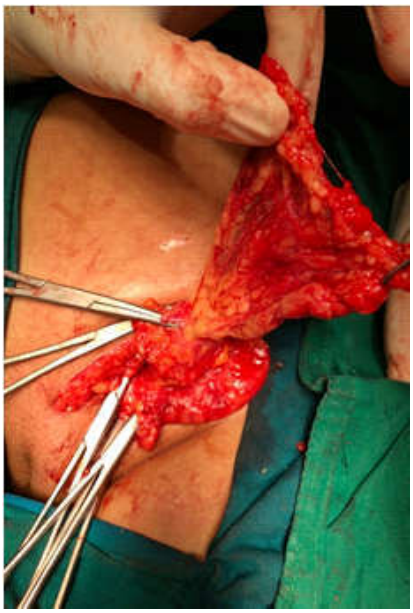

Fig. 3: Omentum as content

A diagnosis of left indirect irreducible inguinal hernia was made. Ultrasound of the abdomen suggested herniation of omentum through inguinal ring into inguinal canal with intact vascularity and with a hernia defect of 6.5mm and intra operative finding corroborated ultrasound findings. Herniotomy and Bassini's repair was performed.

Discussion

Inguinal hernias rarely occur in females. The life time risk of inguinal hernia is 3% in female [8]. The most common sub type of groin hernia in female is the indirect inguinal hernia [9].

The canal of Nuck is a small protrusion of peritoneum, which corresponds to the processusvaginalis in male. It usually gets obliterated during 1st year of life and failure or incomplete obliteration leads to hernia or hydrocele of canal of Nuck [10].

Hernial sac may contain peritoneal fluid, omental fat, bowel loops, ovary, fallopian tube, urinary bladder in the inguinal canal. All inguinal hernias in females occur as indirect protrusion, and many of these are in fact sliding hernias containing genital structures such as ovaries, fallopian tubes or even the uterus.

Risk factors like constipation and positive family history are associated with inguinal hernia. Small musculo-pectineal orifice of Fruchaud in female is a weak spot from where hernia can occur, which can be strengthened with controlled strenuous activity. Sports activity and obesity are protective for inguinal hernia [11].

Dubashi et al observed, out of 23 cases, 17 cases were having hernia on right side and most common in first decade of life and in all the cases sac were anterior to the round ligament emerging from deep ring. In our case the hernia was present on left side and hence a rarity [12].

The diagnosis of hernia of canal of Nuck in female is based on clinical presentation, physical finding and ultrasonography, (USG) is a very effective tool to detect content of inguinal hernia [4,5].

In our case hernial sac contained omentum which was knotted and had its vascularity maintained. Omentectomy was done and the hernial sac was explored and walls inspected for a sliding component. The mesenteric attachment to the inner hernia sac wall was dissected in the bloodless plane. The contents were then reduced with no compromise in the blood supply, and the base of sac was transfixed.

Many surgical treatment modalities are available these days like tension free prosthetic repairs, laparoscopic repair (totally extraperitoneal/ transabdominalpreperitoneal) and tissue suture repair such as Bassini and Shouldice technique. Non-mesh repair is justifiable in female patients as transversalis fascia is strong compared to men [13].

Bassini and Shouldice techniques are tension repairs. Chances of recurrence are more but still these repairs have been done in developing countries as these techniques are cost effective.

In our case, Bassini's repair was done [12].

Conclusion

Left inguinal hernia is further rare as compared to right inguinal hernia in females.

The sliding hernial sac contents like omentum, fallopian tube, ovaries, uterus and small bowel loops should be evaluated carefully, as during surgery they can be damaged.

Even without the signs of any complication this type of hernia should be managed promptly with early surgical intervention such as tension free prosthetic repairs, laparoscopic repair (totally extraperitoneal/ transabdominalpreperitoneal) and tissue suture repair such as Bassini and Shouldice technique.

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