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Hydrocele of canal of Nuck- A CASE REPORT

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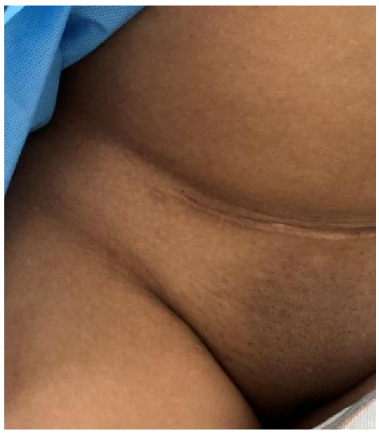
ABSTRACT:
Hydrocele of the canal of Nuck is otherwise known as the "female hydrocele is a rare condition in females and is a developmental defect .The processus vaginalis accom- panies the round ligament through the inguinal canal into the labium majus. This evagination of the parietal peritoneum forms the canal of Nuck in the female. This communication usually closes by one year of age but if it fails to close it leads to hy- drocele of canal of nuck . Here, we present the case of a 29 year old female who complained of swelling and pain in the right inguinal region. Coronal and axial mag- netic resonance imaging (MRI) revealed a right sided hydrocele of canal of nuck .

Key words: hydrocele, canal of nuck, female

INTRODUCTION:
In females the processus vaginalis arises as an evagination in the parietal peritoneum. It is also called as an hydrocele of canal of nuck as it is equivalent to the spermatic cord hydrocele in males.[1,8] The processus vaginalis is named as the canal of nuck. During development in females the processus vaginalis accompanies the round ligament as it passes through the inguinal canal into the labia majora.[6] Though it is vital to make know the types of inguinal hydroceles pre-operative , in most cases of hydrocele of canal of nuck the diagn- odsis is based on radiological investigations. [2]

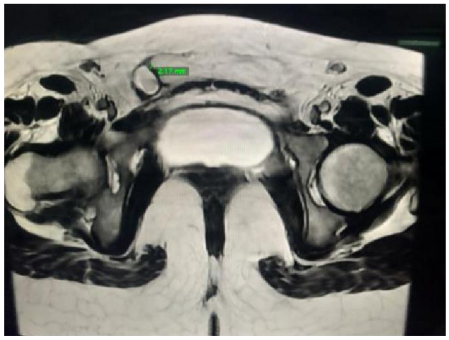
CASE PRESENTATION :
Here we will discuss about a 29 year old female who presented to out patient department with chief com- plaints of on and off swelling in the right inguinal region for 3 months and pain over the right inguinal region for past 1 month . No history of any local trauma . Patient had a previous LSCS 10 years back . Clinically no swelling or cough impulse was present (figure 1) .

Figure 1 Preoperative clinical picture showing no swelling



A 3 T MRI pelvis screening was done and it showed a well defined ovoid fluid collection seen in the right inguinal canal along the round ligament , extending medially till the superolateral margin of right labia -Hydrocele of canal of Nuck. (figures 2, 3)

Figure 2: MRI showing hydrocele of canal of nuck. Figure 3: MRI showing hydrocele of canal of nuck



The patient underwent surgery under spinal anesthesia . A right inguinal incision was made and deepened in layers and EOA was cut open along the fibres. A cystic mass of 2 x 1 cm with a round ligament was seen ex- tending upto the pubis. (Figures 4,5) . All the adhesions were released and sac was dissected , transfixed and excess sac was cut . Mesh was fixed below to the inguinal ligament and all around to the conjoint tendon . Haemostasis was achieved and closure done in layers. Postoperative period was uneventful , patient improved symptomatically and was discharged on Post operative day 3.

Figure 4: intraoperative picture of sac after re- leasing the adshesions

Figure 5 : intraoperative picture after opening the sac

DISSCUSSION:

During the development the cranial part of the gubernaculum becomes the ovarian ligament, whereas the caudal part forms the round ligament of the uterus and it runs through the inter- nal ring, inguinal canal, and external ring, attaching terminally to the abdominal wall mus- cles [6]. The processus vaginalis accompanies the round ligament through the inguinal canal into the labia majora[2]. This evagination of the parietal peritoneum is the canal of Nuck in the female and corresponds to the processus vaginalis in the male. In males, this structure accompanies the spermatic cord into the inguinal canal before it reaches the scrotum. This peritoneal evagination undergoes complete obliteration during the first year of life [2]. A hydrocele of the canal of Nuck, which is a collection of fluid within the processus vaginalis in females, is a rare entity, and it is analogous to a spermatic cord hydrocele [4,7].

Clinically, a hydrocele of the canal of Nuck can appear either as a painless or a moderately painful fluctuant inguinal mass, with no accompanying nausea or vomiting; therefore, it is not easy to diagnose this entity on clinical findings alone. These masses are not reducible and, if large enough, can be transilluminated. When the peritoneal evagination remains completely patent, it forms an avenue for an indirect inguinal hernia. Partial proximal oblit- eration, which leaves the distal portion of the processus vaginalis open, creates the anatomic prerequisite for a hydrocele of the canal of Nuck [4,7]. In adults, a hydrocele of the canal of Nuck should be first treated by surgical excision of the mass without puncturing it. Aspira- tion of a hydrocele of the canal of Nuck is inadequate and results in high recurrence rates. When the hydrocele is complicated by endometriosis, excision of both the mass and uterine round ligament is necessary [2, 4, 8].

The MRI findings for the canal of Nuck hydroceles have been reported for a few patients. MRI reveals that these hydroceles extend both within and outside the inguinal canal and demonstrates the extension of the hydroceles very well, which allows for successful surgical excision. In the present case, the MRI revealed a cystic lesion, which extended along the round ligament from the pelvic cavity to the inguinal region. In addition, it enabled visual- ization of other internal structures which were neither omentum nor intestine in the cystic lesion; thus, this led us to a preoperative suspicion of a hydrocele of the canal of Nuck.

Some of the differentials that causes swelling in the female inguinal region, including in- guinal hernia, tumors (lipoma, leiomyoma, and sarcoma), cysts, abscesses, and lym- phadenopathy. The hydrocele of the canal of Nuck is an unfamiliar problem for physicians, and some cases are preoperatively misdiagnosed as inguinal hernias, Bartholin cysts, or Bartholin abscesses [1, 4]. Ultrasonography is often used for the initial imaging of inguinal lesions. In previous reports, ultrasonographic findings of a hydrocele of the canal of Nuck have been described as a comma-shaped lesion with its tail directed toward the inguinal canal, a “cyst within a cyst” appearance, and a multicystic hydrocele. However, ultrasonog- raphy seems to be controlled by the capability of the specialist, and this examination lacks reproducibility. It is necessary to understand the extension of the cystic lesion for proper surgical planning.

CONCLUSION :

Hydrocele of canal of nuck is a rare entity without any specific symptoms hence it should be considered as a differential for inguinal swellings without specific symptoms in females. MRI is the preferred radiological modality for diagnosis and also helps to plan the surgery as it defines the extent.

References

1. Stickel WH, Manner M. Female hydrocele (cyst of the canal of Nuck): sonographic appearance of a rare and little-known disorder. J Ultrasound Med. 2004;23:429–32. [PubMed] [Google Scholar] 2. Kucera PR, Glazer J. Hydrocele of the canal of Nuck. A report of four cases. J Reprod Med. 1985;30:439–42. [PubMed] [Google Scholar]

3.. Park SJ, Lee HK, Hong HS, Kim HC, Kim DH, Park JS, Shin EJ. Hydrocele of the canal of Nuck in a girl: ultrasound and MR appearance. Br J Radiol. 2004;77:243–4. doi: 10.1259/bjr/ 51474597. [PubMed] [CrossRef] [Google Scholar]

4. Block RE. Hydrocele of the canal of Nuck: a report of five cases. Obstet Gynecol. 1975;45:464– 6. [PubMed] [Google Scholar]

5. Schneider CA, Festa S, Spillert CR, Bruce CJ, Lazaro EJ. Hydrocele of the canal of Nuck. N J Med. 1994;91:37–8. [PubMed] [Google Scholar]

: sonographic and MRI appearances. J Clin Ultrasound. 2007;35:531–2. doi: 10.1002/jcu.20329. [PubMed] [CrossRef]

6.. Attah AA, Hutson JM. The anatomy of the female gubernaculum is different from the male. Aust NZ J Surg. 1991;61:380–4. doi: 10.1111/j.1445-2197.1991.tb00239.x. [PubMed] [CrossRef] [Google Scholar]

7. Safak AA, Erdogmus B, Yazici B, Gokgoz AT. Hydrocele of the canal of Nuck

8.. Anderson CC, Broadie TA, Mackey JE, Kopecky KK. Hydrocele of the canal of Nuck: ultra-