

Hydrocele of Canal of Nuck - A Case Report

Phuchungla Bhutia^{1*} and Varun Kumar Singh²

¹Consultant, Department of Surgery, STNM Hospital, Gangtok 737101, Sikkim, India

²Professor, Department of Surgery, Sikkim Manipal Institute of Medical Sciences, Tadong, Inida

*Corresponding author: Phuchungla Bhutia, Consultant, Department of Surgery, STNM Hospital, Gangtok 737101, Sikkim, India; E-mail: david999ran@gmail.com

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Abstract

Though inguinal hernia is the most common inguinal swelling in females, hydrocele of canal of Nuck though rare should be thought about in the diagnosis of female inguino-labial swellings. Both inguinal hernias and hydrocele of canal of Nuck occurs due to non-obliteration of processus vaginalis. Its more common in young girls less than 5 years of age than in adults. We present a case of Hydrocele of canal of Nuck in a 25-year-old girl who presented with swelling and pain in her right inguinal region. She underwent high ligation with excision of the hydrocele.

Keywords: *Inguinal hernia; Hydrocele; Neurofibromatosis*

1. Introduction

Canal of Nuck is an abnormal patent pouch of parietal peritoneum connecting the round ligament to the labia majora through the inguinal ring in the inguinal canal. It was first described by Anton Nuck, a dutch anatomist in 1691 [1]. Canal of Nuck in female is the male equivalent of processus vaginalis. The processus vaginalis starts as a dimple of peritoneum in about the 10th week of gestation and precedes the testis in its journey through the abdominal wall down to the scrotum. The fully developed gubernaculum contains muscle fibres but it is still not clear what role it plays in testicular descent. In females it attaches to the mid portion of the uterus. It becomes the round ligament and travels through the inguinal canal to attach to labia majora [2]. Failure of obliteration of processus vaginalis result in inguinal hernias or hydrocele. Most patient at presentation are clinically diagnosed as a case of inguinal hernias. Radiological investigations such as Ultrasound and MRI aids in the diagnosis. Surgical excision with or without hernioplasty is the treatment.

2. Case

A 25-year-old female patient presented in OPD with complaints of swelling in right inguinal region and pain in the swelling for the last 20 days. She was diagnosed clinically in another hospital as a case of obstructed hernia and was advised for surgery. On examination her swelling was smooth, non-reducible, non-pulsatile and had no impulse on coughing. There were no changes in appearance of the swelling in different positioning of the patient. USG of the swelling reported it as a well-defined anechoic cystic lesion with thick wall with no bowel or omentum as content. She underwent surgical exploration with high ligation and excision via inguinal incision under spinal anaesthesia. She had no postoperative wound infections and had no recurrence till 18 months of her post-operative period (FIG. 1-3).



FIG. 1.



FIG. 2.



FIG. 3.

3. Discussion

Whenever we mention the word hydrocele, we spontaneously think the patient to be a male. This bias and the uncommon nature of hydrocele of canal of Nuck leads the physician/surgeons to clinically label most inguino labial swellings in females as inguinal hernias. Hydrocele of canal of Nuck though rare but should be thought about in a female patient presenting with inguino labial swelling [3]. There are three types of hydroceles of canal of Nuck. Type 1 is the most common one where the cyst has no communication with the peritoneal cavity; Type 2 is similar to congenital hydrocele where there is communication of the cyst with the peritoneal cavity; Type 3 is a combination of the first two where there is a constriction in the inguinal ring giving it an hourglass appearance [4]. Pre operatively at least an ultrasonography of this kind of swelling has to be done to rule out hernias with bowel or omentum as content [5]. The disadvantage of ultrasound is that it cannot give information regarding the communication of the cyst with the peritoneal cavity. MRI can overcome the disadvantage of an USG and give us additional information regarding anatomical relation with surrounding structures [6]. Surgical treatment in form of high ligation with excision with or without hernioplasty both via open or laparoscopic approach can be done. Both transabdominal preperitoneal (TAPP) and Total extra peritoneal (TEP) approach can be done laparoscopically. Both open and TAPP approach has similar outcomes whereas TEP is initially difficult due to difficulty in finding anatomic landmarks [7].

4. Conclusion

We present a single case of type 1 hydrocele of canal of Nuck which initially presented as a non-reducible inguino labial swelling. Making a diagnosis by clinical examination alone may not be possible but strong possibility should always be kept in mind in case of non-reducible swelling with no impulse on coughing. USG is the minimal investigations that is to be done preoperatively to distinguish it from inguinal hernias. Surgery is best for diagnosis and treatment.

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