

A RARE CASE REPORT OF HYDROCELE OF THE CANAL OF NUCK IN AN INFANT

Monika Negi* and Akhilesh Negi

Association: Advance Diagnosis Centre and Multispecialiyyt Hospital, Kangra, HP.

*Corresponding Author: Dr. Monika Negi

Association: Advance Diagnosis Centre and Multispecialiyyt Hospital, Kangra, HP.

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INTRODUCTION

Hydrocele of the canal of Nuck is a rare surgical condition in females and form as a result of partial or complete failure of obliteration of the canal of Nuck. Hydroceles of the canal are far less frequent with a 0.76% rate in a large series of 787 inguinal surgical explorations, than inguinal hernias.^[1] Huang et al., reported that only 6 out of 580 female inguinal hernia cases admitted in Chang Gung Children's Hospital, Taiwan from 1997 to 2002, were finally diagnosed as hydrocele with the incidence of 1 % in female child.^[2]

CASE REPORT

A three month old female child was presented to emergency department by her mother with the complaint of bilateral inguinolabial swelling, which was incidentally noticed while bathing the child a week prior to the presentation. The mother reported that the swelling was usually not present all the time and becomes prominent in size on crying and straining. On examination, non-tender, reducible swelling found in bilateral inguinal region, which was prominent on crying. The child was referred to the radiology department for ultrasound with the requisition to rule out inguinal hernia.

Ultrasound revealed bilaterally patent canal of Nuck filled with tubular comma shaped anechoic fluid collection measuring approx. 8.5mm on right and 5.1mm on left. The fluid was more prominent on crying and was completely reducible. It showed no color flow on Doppler and was seen communicating with the peritoneal cavity. A communicating type of hydrocele of the canal of Nuck was diagnosed on USG.

Following the diagnosis, the child was put on follow up and the surgery was put on hold by the parents considering the age of the child.

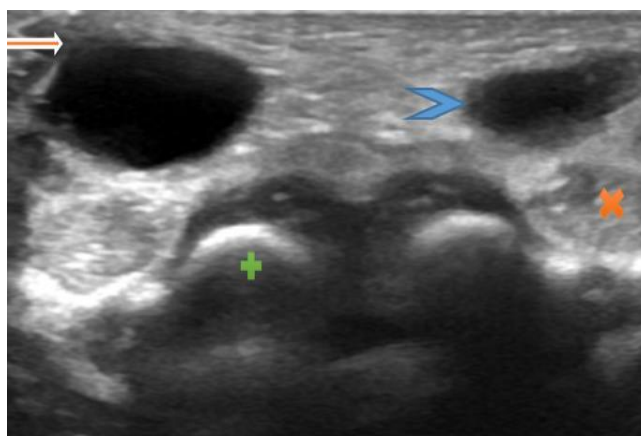


Figure 1: Transverse US image shows a bilateral echogenic oval patent canal of Nuck (arrow- right side; arrowhead- left side) with anechoic fluid content bilaterally (right>left). Plus sign = pubic bone; cross sign= pectineal muscle.

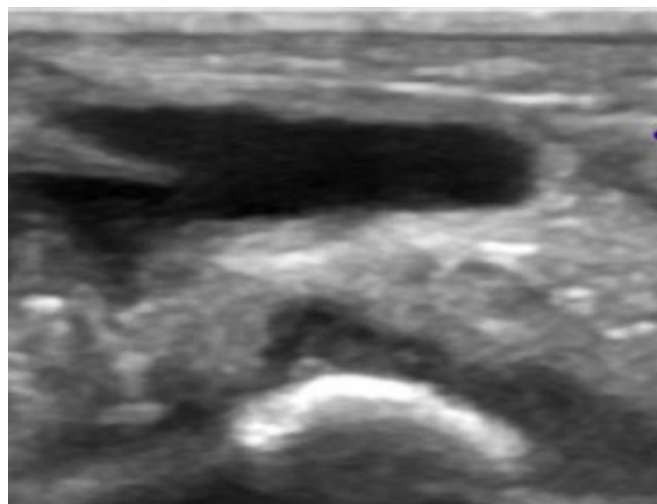


Figure 2: Sagittal US image shows a patent tubular canal of Nuck with fluid content within and is seen communicating with the peritoneal cavity.

DISCUSSION

Hydroceles of the canal of Nuck (also commonly called cysts of the canal of Nuck) is a rare pathology and is homologous with the spermatic cord hydrocele in males.^[3] During embryogenesis, round ligament of the uterus descends down to the ipsilateral labia majora through the inguinal canal accompanied by a peritoneal fold known as processus vaginalis. It usually gets obliterated in the first year of life. However, failure to achieve this obliteration may lead to development of an indirect inguinal hernia or hydrocele.^[3,4,5]

There are three types of hydrocele of canal of Nuck as described by Counseller et al : (I) Encysted hydrocele or cyst of the canal of Nuck which shows the no communication with peritoneal cavity; (II) Communicating hydrocele, with persistent communication between hydrocele and the peritoneal cavity, (III) Hour-glass hydrocele owing to constriction at deep inguinal ring.^[6] The case reported was type II communicating hydrocele.

Clinically it presents as a painless or moderately painful swelling once it gets infected, translucent, irreducible lump in the inguino-labial region. There are many differentials to inguinal swelling in female including inguinal hernia, lymphadenopathy, abscess, tumor (lipoma, leiomyoma, sarcoma), Bartholin's cyst. Hence, in order to establish a definitive diagnosis based primarily on clinical examination only is challenging.^[3,4,5,7]

Radiological confirmation can be done with the help of a high-resolution ultrasonography or MRI scan. CT scan is not the first imaging modality due to radiation issue. However, it is commonly preferred in adults due to its high availability & short scanning time. On sonography, lesion appears as well-defined anechoic lesion with posterior acoustic enhancement, lying superficially in groin and medial to the pubic bone at the level of superficial inguinal ring and shows no color flow on

Doppler study. MRI show hypointense sausage shaped inguinal lesion on T1 and hyperintense on T2 - weighted images.^[8,9,10]

Cysts of the Canal of Nuck require surgical excision, which can be done either through open or laparoscopic approach. Aspiration may be a temporary option to relieve symptoms. However, would be unsuccessful as the fluid reaccumulates.^[1,11]

CONCLUSION

A hydrocele of the Canal of Nuck, although a rare entity in pediatric population, should always be considered in the differential diagnosis in a female child presenting with inguino-labial swelling. Understanding the typical presentation will help clinicians achieve an accurate diagnosis based on physical examination and its further evaluation with high-resolution ultrasound or MRI scan imaging. However, definitive diagnosis is usually made with surgical exploration and surgical excision is the treatment of choice.

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