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HYDROCELE OF THE CANAL OF NUCK WITH COMMA-SHAPED ARTISTIC VIEW IN AN ADULT FEMALE: A CASE REPORT

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ABSTRACT

Background: Hydrocoele of the canal of Nuck in adult female is a rare, fluid-filled cyst caused by a persistent processus vaginalis (unclosed embryonic structure), resulting in a painless groin swelling and can be mistaken for inguinal hernia, lymphadenopathy, or other tumours, and is capable of causing severe anxiety especially when it is huge, infected or coexisting with hernia which can cause pain and may require emergency surgery.

Objective: To report a case of hydrocoele of the canal of Nuck in adult female

Methodology: Ethics were maintained.

Case Report: A 31year old single nullipara, Christian, Igbo by tribe, teacher with tertiary education, presented to the outpatient gynaecological clinic of our hospital on 22/04/2025 with a complaint of painless swelling on left groin of 4 years duration which occasionally resolves spontaneously and reappears episodically. The mass had not been present in infancy or adolescence. She had not sought for medical care because of the mass previously. On examination, she looked anxious, vital signs and abdomen were normal, a 6 x 4 cm left cystic non tender mass emanating from the upper border of the labia majora was noted. A diagnosis of hydrocoele of canal of Nuck was made and she was counseled and surgical treatment of the hydrocoele done with good outcome.

Conclusion: Hydrocoele of the canal of Nuck in adult female is rare, can cause severe anxiety, may be mistaken for other differentials, but is easily surgically treatable with good outcome.

Keywords: Hydrocoele, Canal of Nuck, Comma-shaped artistic view, Adult female.

INTRODUCTION

Hydrocele of canal of Nuck (HCN) is a rare condition where persistence of processus vaginalis(beyond the 1st year of life when it normally closes) leads to formation of fluid-filled sac in inguinal canal or upper part of labia majora.[1] The canal of Nuck was 1st described in 1691[2] by a Dutch Anatomist, **Anton Nuck**, as a small evagination of the parietal peritoneum attached to the uterus by the round ligament through the internal inguinal ring into the inguinal canal. If the canal of Nuck does not disappear when the uterus passes through the inguinal canal along the ligamentous teres uteri in female fetuses, it causes an indirect inguinal hernia or hydrocele of the canal of Nuck.

Hydrocele of the canal of Nuck is seen more often in paediatric females (1% incidence)[3] than adults. It presents typically as painless cystic swelling at inguinal region or labia majora. It can be associated with pain, infection or obstruction if a hernia is present. Diagnosis is clinical, radiological and histopathological. Differentials are inguinal hernias, lymphadenopathy, Bartholin's cyst, abscesses, and post-traumatic haematoma. [4-6] Treatment is excision of the hydrocele and closure/ligation of the inguinal ring. Its rarity in adult females and its importance as a differential of swellings at the groin and labia are high points for this case report.

METHODOLOGY

Ethical standards were adhered to strictly and informed written consent obtained from the patient for all aspects of her management, including written consent for the images and other clinical information to be reported in journal and she was assured that her initials or any form of identity will not be disclosed. All these were done in accordance to the Helsinki Declaration on Ethical Principles for Medical Research.

CASE REPORT

A 31year old single nullipara, Christian, Igbo, teacher with tertiary education, presented to gynae clinic on 22/04/2025 with a complaint of painless swelling on left upper part of labia majora of 4 years duration which occasionally resolves spontaneously and reappears episodically. The mass was not present in infancy or

adolescence. She had not sought for medical care because of the mass previously.

On examination, she looked anxious, vital signs and abdomen were normal, a 6 x 4 cm left cystic non-tender mass emanating from the upper border of the labia majora was noted. A diagnosis of hydrocele of canal of Nuck was made and she was counseled, lab. Investigations (urinalysis, viral screening and haemoglobin level) were normal. Ultrasound revealed thin-walled, well-defined, anechoic comma-shaped structure. A day-case surgical treatment under local anaesthesia was done by excising the hydrocele and ligating the communicating canal. Her follow-up visits were uneventful. The histology was not done due to financial constraints.

Figure 1: Hydrocele of canal of Nuck on upper part of left labia majora with comma-shaped artistic view (preoperative view)

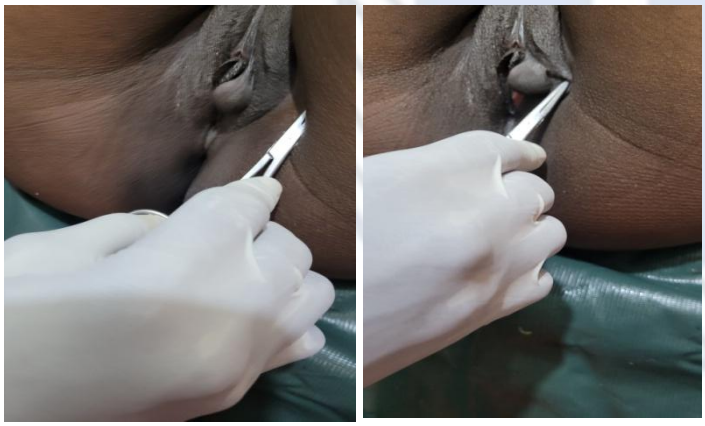


Figure 2: Excision of hydrocele and occlusion of the canal (intraoperative view)

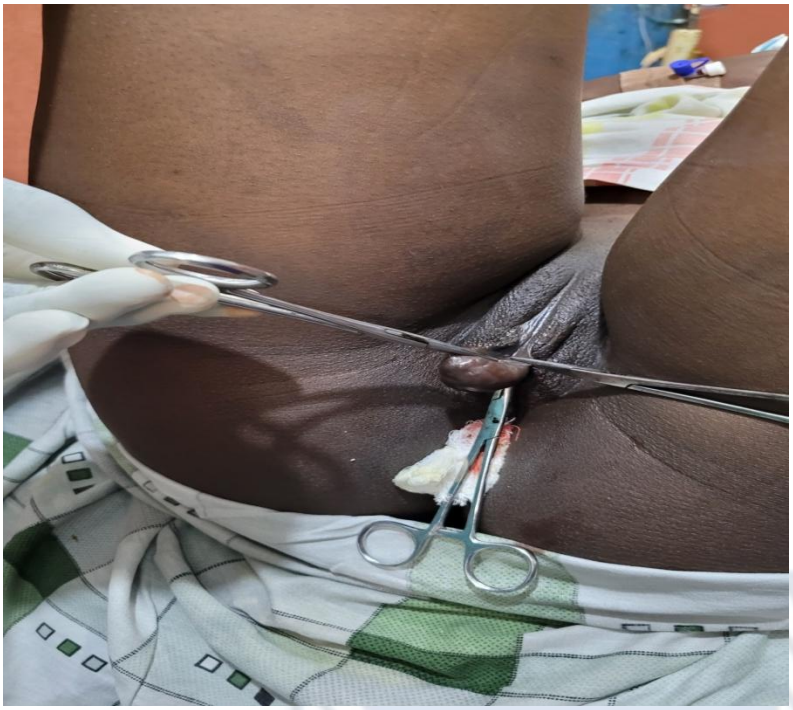


Figure 3: Immediate Postoperative view

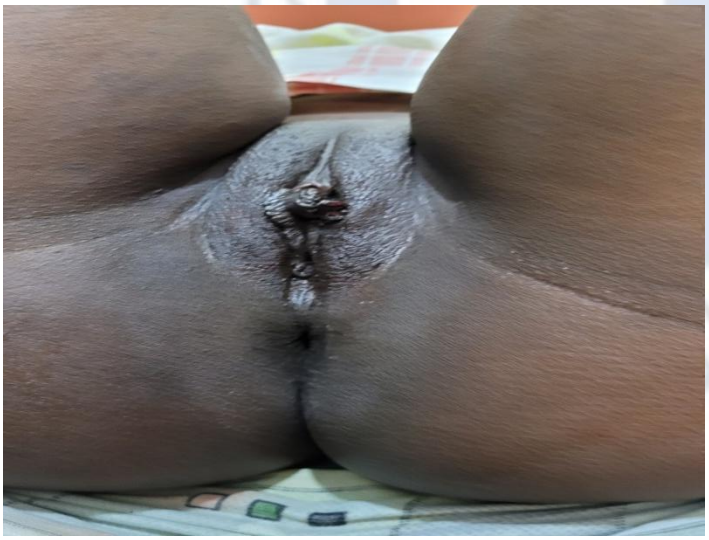
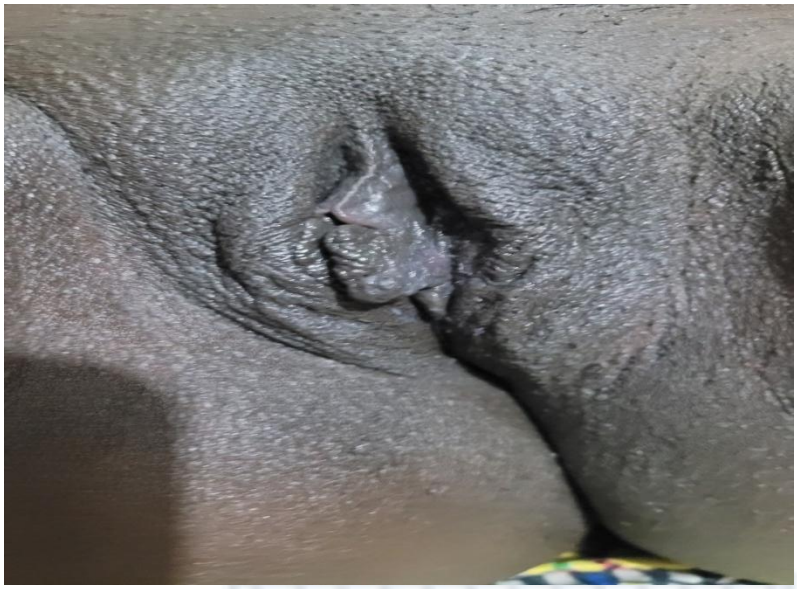


Figure 4: One month follow-up visit showing normal anatomy



DISCUSSION

The clinical features in our patient were classical of Hydrocele of the canal of Nuck. The history of painless swelling on left upper part of labia majora of 4 years duration which occasionally resolves spontaneously and reappears episodically, strongly supported the diagnosis. She did not seek medical attention for 4 years because of shyness and the sensitive location of the mass, but decided to visit our clinic because of the strong and persistent persuasion and encouragement from her immediate elder sister who was one of our antenatal clients.

Other features that strongly supported the diagnosis of hydrocele of canal of Nuck were the presence of the 6 x 4 cm left non-tender cystic mass emanating from the upper border of the labia majora and the ultrasonic finding of thin-walled, well-defined, anechoic comma-shaped structure.[6-8] Ultrasound features may range from tubular, sausage, dumbbell or comma-shaped ‘‘cyst within a cyst’’ to a multicystic appearance.[7-9] MRI reveals relations and attachments of hydrocele with surrounding tissues, and can be done if inguinal endometriosis is suspected and if ultrasonography is inconclusive.[10] MRI was not done, not only due to financial constraints, but also because inguinal endometriosis was not suspected and the earlier mentioned clinical and ultrasonographic features were adequate to make the diagnosis and institute definitive surgical treatment in our patient. Absence of inguinal lymphadenopathy, abdominal masses, and swelling in the contralateral side, further supported our diagnosis.

Excision of the hydrocele and occlusion of the canal / ligation of the neck of the sac to prevent recurrence were done for our patient with good outcome. Open surgery as was done in our patient, is the most common approach, involving a small cut

in the labia or groin to access and remove the cyst, often with high ligation of the canal. Laparoscopic surgery can also be done. Most surgeries are done on outpatient basis, as was done in the index case. Complications of surgery are rare but include infection, bleeding, or recurrence, though recurrence is uncommon after surgical excision.

The restoration of the normal anatomy of her external genitalia was successfully achieved and such gynaecological treatment measures are vital in attainment of the state of total wellbeing of physical, emotional, psychological, social and spiritual health, which our patient happily benefited from.

CONCLUSION

Hydrocele of the canal of Nuck in adult female is a rare gynaecological condition worthy of reporting, an important differential diagnosis of cystic masses around the groin and labia majora, and should be treated successfully in order to allay the patient's anxiety and support and safeguard her sexual and reproductive health.

REFERENCES

1. Nattawut Keeratibharat, Jirapa Chansangrat. Hydrocele of the canal of Nuck: A Review. Cureus Journal of Medical Sciences. 2022 Apr 2;14(4):e23757.doi:10.7759/cureus.23757.
2. Shahid F, El Ansari W, Ben-Gashir M, Abdelaal A. Laparoscopic hydrocelectomy of the canal of Nuck in Adult female: Case report and literature review. Int J Surg Case Rep. 2020; 66:338-341.
3. Sarkar S, Panja S, Kumar S. Hydrocele of canal of Nuck (Female Hydrocele): a rare differential for inguino-labial swelling. J Clin Diag Res.2016 Feb;10(2): PD21-2.
4. Jenkins JT, O'dwyer PJ, Inguinal hernias. BMJ. 2008 Feb 2;336(7638): 269-72.
5. Ukelina Undie, Kelechi Stanislaus Nedosa, Uchechukwu George Ogbu, Adeyemi Oluwatobi Akano, Adeyemi Odunayo Precious. Hydrocele of the canal of Nuck mimicking an inguinal hernia in a 34-year-old pregnant woman: a case report. The PAMJ. 2025. Sept-Dec; 52: 16-30.
6. Patnam V, Narayanan R, Kudva A. A cautionary approach to adult female groin swelling: Hydrocoele of the canal of Nuck with a review of the literature. BMJ Case Rep 2016; 2016:bcr2015212547.

7. Akkoyun I, Kucukosmanoglu I. Yalinkilinc E, Cyst of the canal of Nuck in pediatric patients. N Am J Med Sci. 2013;5:353-356. doi: 10.4103/1947-2714.114166.
8. K.S.Kim, J.H. Choi, H.M. Kim, et al. Hydrocele of the canal of Nuck in a female adult. Archives of plastic surgery, 43 (5) (2016), pp. 476-478.
9. Kochis M, Goldstein AM, Griggs C. Canal of Nuck hydrocele. J Pediatr Surg Case Rep. 2021;74:102049.
10. Chan D, Kwon JK, Lagomarsino EM, Veltkamp JG, Yang MS, Pfeifer CM. Canal of Nuck hernias. Acta Radiol Open. 2019;8 doi: 10.1177/2058460119889867.