



HYDROCELE OF THE CANAL OF NUCK: CASE REPORT

Dr. Chawan BARAN (MRCOG),

Dr. Allan Varughese (MRCOG), Dr. Humaira Ali (MRCOG), Dr. Nishita Mehta (MRCOG)

St George's University Hospital



Abstract

Introduction

Hydrocele of the canal of Nuck is a rare condition caused by a failure of complete obliteration of the canal of Nuck and it is more common in female children.

The processus vaginalis accompanies the round ligament through the inguinal canal into the labium majus. This evagination of the parietal peritoneum forms the canal of Nuck in females. The canal of Nuck normally loses its connection with the peritoneal cavity during the first year of life, but in some rare cases, it can result in a hernia or hydrocele when the connection of the canal of Nuck fails to close.

The case

Here, we discuss the case of 42-year-old female presenting with gradual onset of 3 by 4 cm right sided painful labial swelling with mildly raised inflammatory markers. The patient was admitted and taken to theatre for an incision and drainage of a suspected Bartholin's cyst. Whilst in theatre, a thorough examination was undertaken and the swelling was not amenable for a drainage, therefore the procedure was abandoned. An MRI scan was requested, which showed an elongated hyperintense structure within the soft tissue overlying the mons pubis and extending to the right labium majorus. Proximally the structure tapers towards the right inguinal canal keeping with hydrocele of the canal of Nuck with some surrounding inflammatory changes. Patient was informed of diagnosis and a follow up in Gynaecology outpatient clinic was arranged.

Conclusions

Management is often through watchful waiting. Surgery maybe recommenced if persists beyond a year and it is indicated if there's a communicating hydrocele as this will increase the risk of incarcerated inguinal hernia.

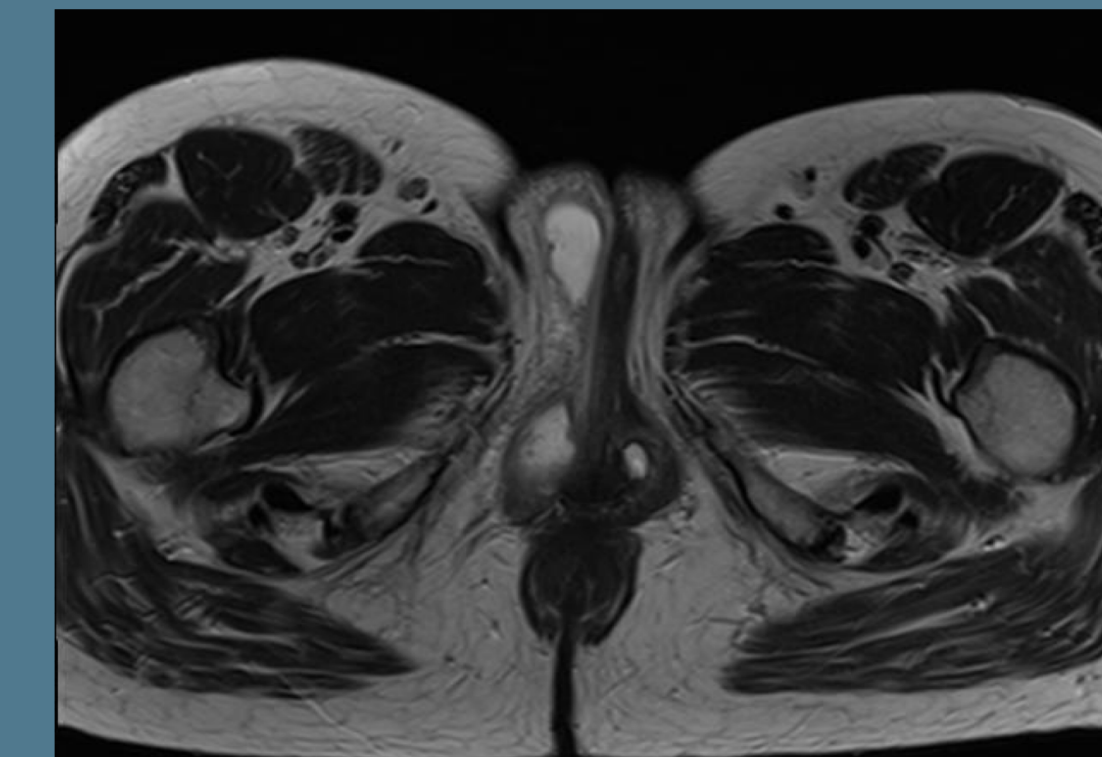
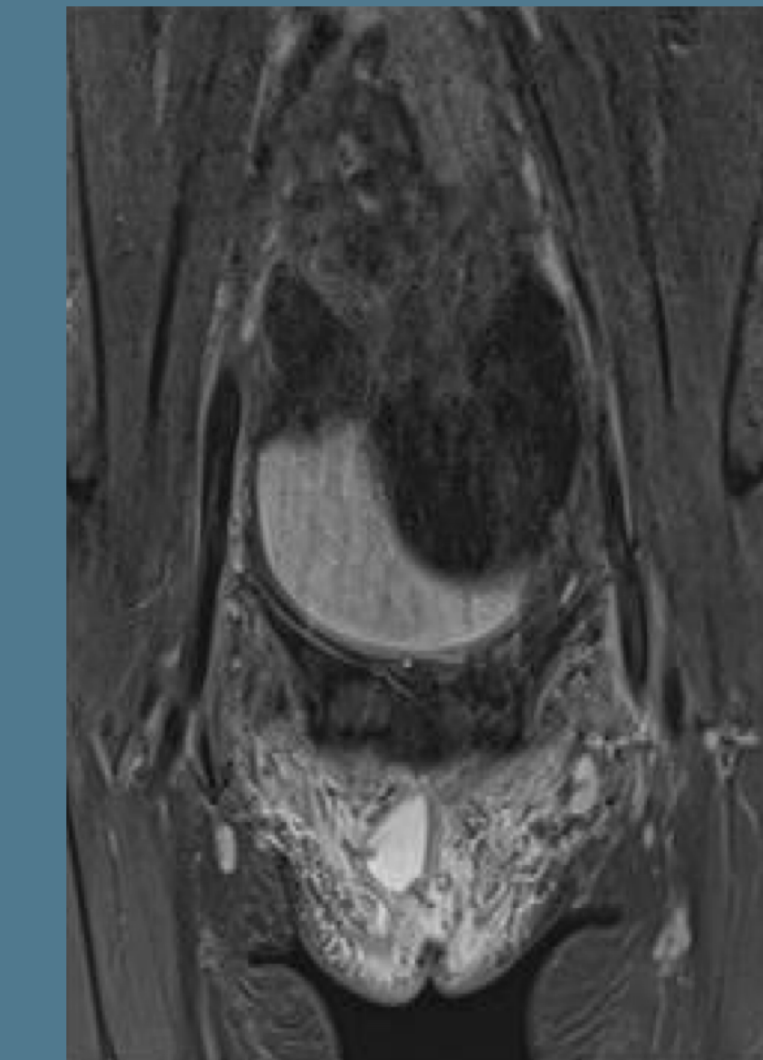
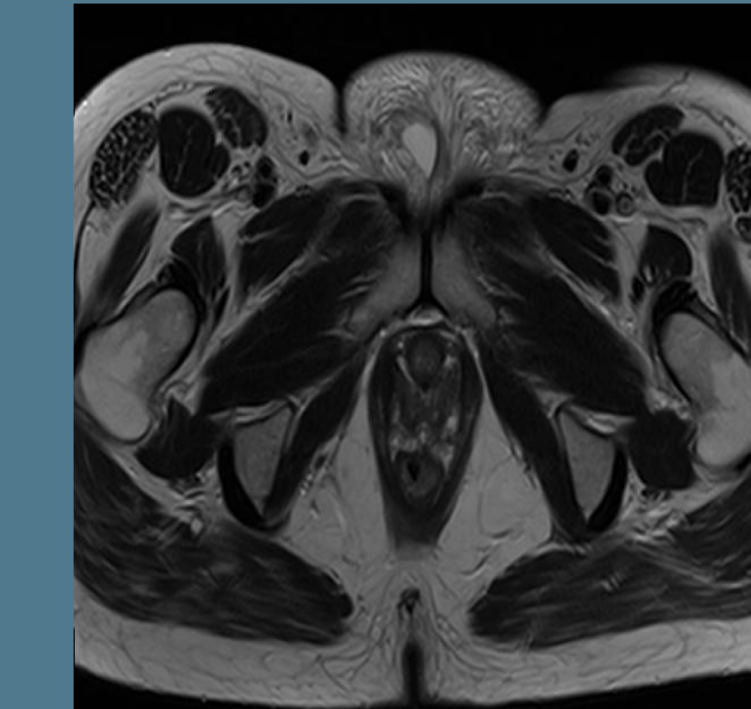
Introduction

- Hydrocele of the canal of Nuck is a rare condition caused by a failure of complete obliteration of the canal of Nuck and it is more common in female children.
- The processus vaginalis accompanies the round ligament through the inguinal canal into the labium majus.
- This evagination of the parietal peritoneum forms the canal of Nuck in females.
- The canal of Nuck normally loses its connection with the peritoneal cavity during the first year of life.
- However, in some rare cases, it can result in a hernia or hydrocele when the connection of the canal of Nuck fails to close.

The Case

- A 42-year-old female presented with gradual onset of 3 by 4 cm right sided painful labial swelling with mildly raised inflammatory markers.
- The patient was admitted and taken to theatre for an incision and drainage of a suspected Bartholin's cyst.
- Whilst in theatre, a thorough examination was undertaken and the swelling was not amenable for a drainage, therefore the procedure was abandoned.
- Subsequently an MRI scan was requested- Hydrocele of canal of Nuck was found.
- Patient was informed of diagnosis and conservative management was advised, a follow up in Gynaecology outpatient clinic was arranged with a repeat scan.
- Patient was admitted to hospital twice with pain and suspected infected Bartholin cysts and was given IV antibiotics.
- She was reviewed in clinic, 3 months post her initial admission and failed incision and drainage.
- And has had a repeat MRI – Which showed resolved hydrocele, however had two small Bartholin cyst- she was managed conservatively as she was asymptomatic.

Investigations



An elongated hyperintense structure within the soft tissue overlying the mons pubis and extending to the right labium majorus. Proximally the structure tapers towards the right inguinal canal keeping with **hydrocele of the canal of Nuck.**

Discussion

Management of Hydrocele of canal of nuck

- Management is often through watchful waiting.
- Surgery maybe recommenced if persists beyond a year and it is indicated if there's a communicating hydrocele as this will increase the risk of incarcerated inguinal hernia.
- Hydrocele of canal of Nuck should be included in the differential diagnosis of labial/inguinal swellings.

Three types of hydrocele of the canal of Nuck

- The most common type, type one has no communication with the peritoneal space and forms an encysted hydrocele along the round ligament, from the inguinal canal to the vulva.
- The second type results when there is a persistent communication with the peritoneal space.
- The third type is a combination of the first two resulting from the inguinal ring constricting the hydrocele like a belt so that one part is communicating and the other part is enclosed, thus giving the name “hour-glass” type.
- The present case report, the hydrocele had no communication with the peritoneal space, therefore it was type one.

Management of each type

- An open approach is recommended to a persistent external Type 1 Nuck's hydroceles.
- A laparoscopic approach is recommended to intra-abdominal Type 2 Nuck hydroceles.
- For more complex hydroceles like Type 3, evaluation needs to be made individually, as they are challenging and the surgical outcome is dependent on the surgeon's skills.
- If inguinal canal has been widened by the presence of a Nuck's hydrocele, a meshplasty should be considered, as performed in hernia surgery.

References

1. Yu Mi Choi, Gyu Min Lee, Jung Bin Yi, Kyung Lim Yoon, Kye Shik Shim, Chong Woo Bae, *et al.* Two cases of female hydrocele of the canal of nuck Korean J Pediatr, 55 (4) (2012), pp. 143-146 [PubMed: PMC3346837]
2. Y. Manjunatha, Y. Beeregowda, A. Bhaskaran; Hydrocele of the canal of Nuck: imaging findings; Acta Radiol Short Rep, 1 (3) (2012) arsr.2012.110016. [PubMed: PMC3738346]
3. Santanu Sarkar, Soumyajyoti Panja, Sandeep Kumar. Hydrocele of the canal of nuck (female hydrocele): a rare differential for inguino-labial swelling; J Clin Diagn Res, 10 (2) (2016 Feb) PD21-2 [PubMed: 27042529] S.U. Rambhia, P. Ayyar
4. Toshifumi Matsumoto,* Takao Hara, Teijiro Hirashita, Nobuhide Kubo, Shoji Hiroshige, and Hiroyuki Orita; Laparoscopic diagnosis and treatment of a hydrocele of the canal of Nuck extending in the retroperitoneal space: A case report. Pubmed.