

THE NUCK'S CYST: A DISEASE EASILY CONFUSED FOR INGUINAL HERNIA. A CASE REPORT

GIOVANNI TOMASELLO^{1,3,4,6}, ENRICO VINCENZO BONAFEDE³, VINCENZO DAVIDE PALUMBO^{1,2,4}, GIUSEPPE DAMIANO⁶, ANTONIO BRUNO⁴, EMANUELE SINAGRA^{2,4,5}, SILVIA FICARELLA⁶, SALVATORE DE LUCA⁶, MARCELLO NOTO³, ANTONIO CIULLA^{3,6}, GIOVANNI DI CARLO³, ATTILIO IGNAZIO LO MONTE^{1,2,3,6}

¹Dichirons Department, Faculty of Medicine, University of Palermo - ²Course in Surgical Biotechnology and Regenerative Medicine, Faculty of Medicine, University of Palermo - ³AOUP Paolo Giaccone, Palermo - ⁴Euro-Mediterranean Institute of Science and Technology (IEMEST), Palermo - ⁵Gastroenterology and Endoscopy Unit, Fondazione Istituto San Raffaele - G. Giglio, Cefalù, - ⁶School of Medicine and Surgery, University of Palermo, Italy

ABSTRACT

Nuck's canal cyst is a blind end adult residual of the fetal peritoneum. These rare cystic formations are usually found in the inguinal canal and can easily be mistaken for hernia, or enlarged lymph nodes. Clinically, a Nuck's canal cyst appears as a painless or moderately painful swelling in inguinal area. We report the case of a 40 years-old woman with a painless swelling in her left inguinal region, believed a groin hernia but diagnosed as a Nuck's canal cyst only after intervention. Intraoperatively, the cyst was opened and subsequently excised, closing the abdominal wall without the use of any sort of synthetic prosthetic material.

Key words: Nuck's, cyst, inguinal hernia, swelling of the inguinal region, lymphadenopathy.

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Introduction

Nuck's canal cyst is a cystic remnant of peritoneum in women' inguinal canal forming during developmental age. These cysts are rarely diagnosed and are often confused with groin hernias or adenomegalies. They represent the female counterpart of hydroceles diagnosed in male patients.

Nuck's canal is rudimentary bag of the peritoneal mesothelium which takes origin from the round ligament and connect to the uterus, at the root of fallopian tubes.

During fetal development, the peritoneum follows the round ligament through inguinal canal, to reach outer labia. This evagination of the parietal peritoneum, called Nuck's canal, is the counterpart of the processus vaginalis in male patients, which sometimes causes hydrocele⁽¹⁾.

Normally, after birth, Nuck's canal obliterates, but if it remains pervious, it will be responsible of a congenital indirect inguinal hernia. The partial occlusion of the proximal tract, together with the perviousness of the distal one, usually causes the formation of a Nuck's cyst. In general, cysts are single, but, more rarely, they can be multiple, if the

obstruction occurs in several points. The enlargement of these cystic formations is likely due to an imbalance between secretion and reabsorption of the fluid substance produced by the "vaginal membrane" (figure 1)⁽¹⁾ Nuck's canal cyst is an unusual diagnosis with only about 400 reported cases^(2,3); clinically, it appears as nodular, painless swelling, localized in the inguinal region. It can also appear as floating irreducible masse, causing mild pain, especially in standing position.

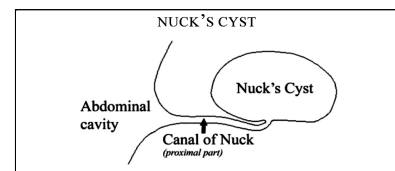


Figure 1: The draft shows the origin of Nuck's cyst.

Therefore, inguinal hernias and adenomegalies should be always considered in the differential diagnosis. In more than one third of patients, this condition is associated with groin hernia, an event that makes it more difficult to diagnose. Obviously, Nuck's cyst is different from an inguinal hernia because of its content, free from intestinal loops or omentum. Differential diagnosis includes also soft

tissue neoplasms (eg. lipomas, leiomyomas or round ligament endometriosis), vascular anomalies, ganglion cysts protruding from the hip joint and the very rare paraspinous abscesses^(1,4).

Case report

A 40 year-old woman came to our cares with a two-years history of dull pain of the left inguinal region, describing the presence of a small swelling in that site. Three years before, the patient underwent an uterine fibroma, but she was three times pregnant. She suffered from allergic rhinitis and did not perform any particularly heavy work.

At clinical examination, the swelling was more evident in standing position and on exertion. The patient referred that, over time, the inguinal mass increased in volume generating a burden in her inguinal region and dull pain after long periods in standing position. On inspection, the swelling was three cm wide and covered by intact and normochromic skin. Palpation showed the mass had a tense-elastic consistency and evidenced it was not reducible and moderately aching. In addition, on exertion, the mass increases its volume reaching the root of the outer left labium. Ultrasound investigation of the left inguinal region, conducted with a 10 MHz high frequency probe, showed a hypo-/anechoic ovoid formation with approximately regular contours (Fig. 2).



Figure 2: 10 MHz high-frequency probe. The image shows the presence of hypo-/anechoic ovoid formation with approximately regular contours.

The compression of the mass with the ultrasound probe, determined in a thinning of the lesion, indicating that the formation was fluid in content. Furthermore, this content seemed to spill over into the inguinal canal.

Colour Doppler revealed no anomalies of vascularization, both in the inner layers and the outskirts of the mass.

The patient was advised for surgical intervention with local anaesthesia. During intervention, a strangulated round ligament and edema of the cystic wall were observed. Once the cyst was opened, its fluid content spilled over the operative field so that

we could make sure it was really a blind ended evagination of the peritoneal sac. The cyst was then excised and abdominal layer closed without the interposition of any sort of prosthesis.

Discussion

The Nuck's cyst is a little-known condition due to peritoneal sac evagination during round ligament formation. The diagnosis is difficult and ultrasound is of little help. In most of reported cases, patients are admitted with a preoperative diagnosis of inguinal hernia, which is the first condition to consider in differential diagnosis. The definitive diagnosis can be made only during surgical operation, when the surgeon can ascertain the absence of bowels or omentum within the sac.

If abdominal fascial layers are in good conditions, as in our case, a plastic reconstruction of the wall can be performed, excluding the use of a synthetic prosthesis. However, in literature there is no agreement about the modality of reconstruction of the abdominal wall. Further studies are required to better understand the role of prosthetic materials in repairing the abdominal wall.

Conclusion

In our opinion, the choice of the right surgical approach for the reconstruction, should take into account the size of the cyst and the anatomic alterations of inguinal region due to mass dimensions.

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GIOVANNI TOMASELLO
AOUP P. Giaccone Via Del Vespro 127
Palermo
(Italy)