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Nuck Kanalı Primer Papiller Seröz Karsinomu Bir Olgu Sunumu
Primary Papillary Serous Carcinoma of The Canal of Nuck A Case Report

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ÖZET

Nuck kanalı, erkeklerdeki processus vaginalis'e homolog olan pariyetal peritonun inguinal kanal içinde kapanmaması sonucu kalan peritoneal kese olarak adlandırılır. Bu kanalın tam olarak obliterasyona uğramaması, sıvı birikimine yol açarak Nuck kanalı kisti oluşumuna neden olabilir veya intraabdominal organların protrüzyonuna izin vererek indirekt inguinal herni ile sonuçlanabilir. Nuck kanalından kaynaklanan primer maligniteler son derece nadirdir.

Bu çalışmada sağ kasık bölgesinde altı aydır devam eden şişlik şikayeti ile genel cerrahi polikliniğine başvuran 59 yaşındaki bir kadın hastanın olgusu sunulmaktadır. Fizik muayene, ultrasonografi ve MRG bulgularına dayanarak Nuck kanalı kisti ön tanısı konuldu ve cerrahi eksizyon planlandı. Ameliyat sırasında kist tamamen eksize edildi ve histopatolojik inceleme sonucunda seröz papiller karsinom saptandı. Göğüs/karın BT ve PET/BT dahil olmak üzere yapılan takip değerlendirmelerinde başka bir primer malign odak veya sistemik metastaz saptanmadı; bu da Nuck kanalı primer karsinomu tanısını doğruladı. Adjuvan tedavi önerildi, ancak hasta daha sonra takipten kayboldu. Nuck kanalının primer tümörlerinin son derece nadir görülmesi nedeniyle, bu olgu mevcut literatüre katkı sağlamak ve benzer olgularda klinik karar verme sürecini desteklemek amacıyla sunulmuştur.

Anahtar Kelimeler: Nuck kanalı, Papiller karsinom, İnguinal kitle, Olgu sunumu

ABSTRACT

The canal of Nuck is named after the peritoneal pouch that remains when the parietal peritoneum—homologous to the processus vaginalis in males—fails to close within the inguinal canal. Incomplete obliteration of this canal may lead to fluid accumulation, forming a cyst of the canal of Nuck, or may allow the protrusion of intra-abdominal organs, resulting in an indirect inguinal hernia. Primary malignancies arising from the canal of Nuck are exceedingly rare.

We report the case of a 59-year-old female who presented to the general surgery outpatient clinic with a six-month history of swelling in the right inguinal region. Based on physical examination, ultrasonography, and MRI findings, a preliminary diagnosis of a canal of Nuck cyst was established, and surgical excision was planned. Intraoperatively, the cyst was completely excised, and histopathological examination revealed serous papillary carcinoma. Subsequent evaluations, including chest/abdominal CT and PET/CT, revealed no other primary malignant foci or systemic metastases, confirming the diagnosis of primary carcinoma of the canal of Nuck. Adjuvant treatment was recommended; however, the patient was subsequently lost to follow-up. Given the exceptional rarity of primary tumors of the canal of Nuck, this case is presented to contribute to the existing literature and support clinical decision-making in similar presentations.

Keywords: Canal of Nuck, Papillary carcinoma, Inguinal mass, Case report

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INTRODUCTION

The Nuck canal was first described by Anton Nuck in 1691(1). The Nuck canal is named after the sac formed by the failure of the parietal peritoneum, which is homologous to the processus vaginalis in males, to close within the inguinal canal (2). Failure of this canal to close can lead to fluid accumulation within the canal, resulting in a Nuck canal cyst or the presence of visceral organs within the canal (indirect inguinal hernia) (3). Clinicians must be knowledgeable about this condition in order to make a correct differential diagnosis of hernias commonly seen in the inguinal region (4).

CASE

A 59-year-old female patient presented to the general surgery outpatient clinic at Bolvadin State Hospital due to a swelling in her right groin that had persisted for 6 months and had recently begun causing pain on physical examination. On physical examination, a mobile mass with distinct borders was palpated in the right groin region; no erythema of the skin accompanying the mass or increase in mass size with the Valsalva maneuver was observed. The patient had no history of previous surgery or chronic disease. No history of malignancy was noted in the family history. Ultrasonography revealed a bilobulated cystic lesion measuring 39×17 mm in the right groin region, containing thin septa and with smooth margins. No intra-abdominal extension of the lesion or change in its size with the Valsalva maneuver was observed (Figure 1).

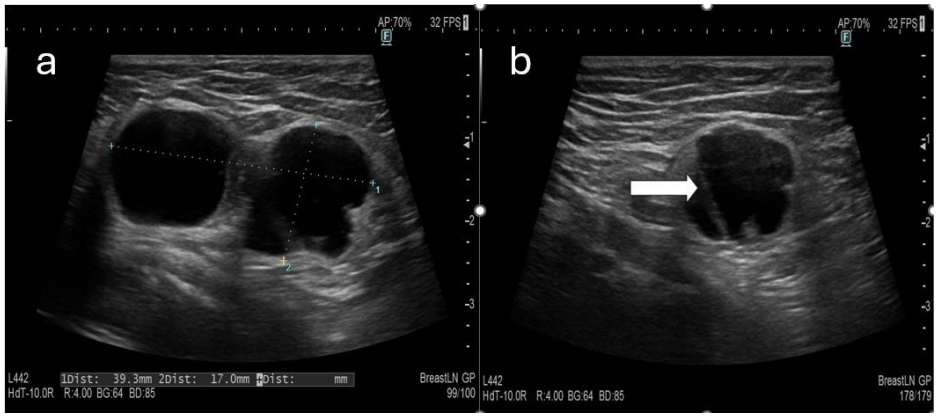

Figure 1. Ultrasound images

Pelvic MRI performed for confirmation revealed a bilobulated cystic lesion in the right inguinal region with mild wall contrast enhancement suggestive of infection or malignancy. The lesion contained thin septa and thin walls, similar to those seen on ultrasound. T1-weighted images showed high signal intensity, which could be indicative of protein-rich content (Figure 2).

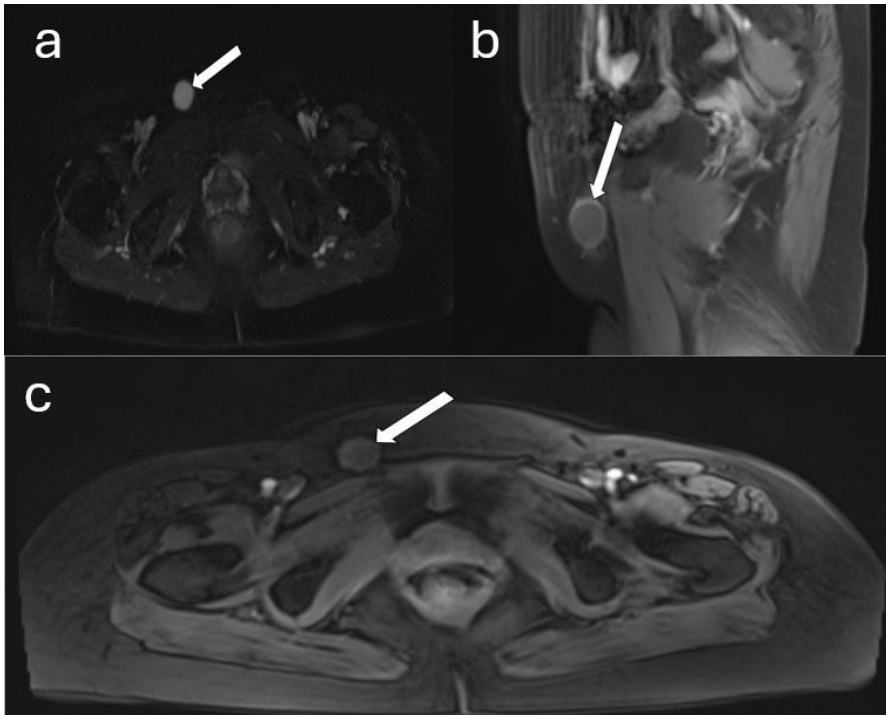

Figure 2. Magnetic resonance images

Surgical excision was performed due to the patient's symptoms. Access to the cyst was gained through an incision parallel to the inguinal ligament. It was determined that the cyst originated from the round ligament and was located outside the inguinal canal. Two adjacent cysts (bilobules) measuring 3 and 2 cm were observed. The cyst was completely excised, and no accompanying inguinal hernia was detected. The distal ends of the round ligament were sutured to the external opening of the inguinal canal (to prevent labial prolapse), and the operation was completed (Figure 3).

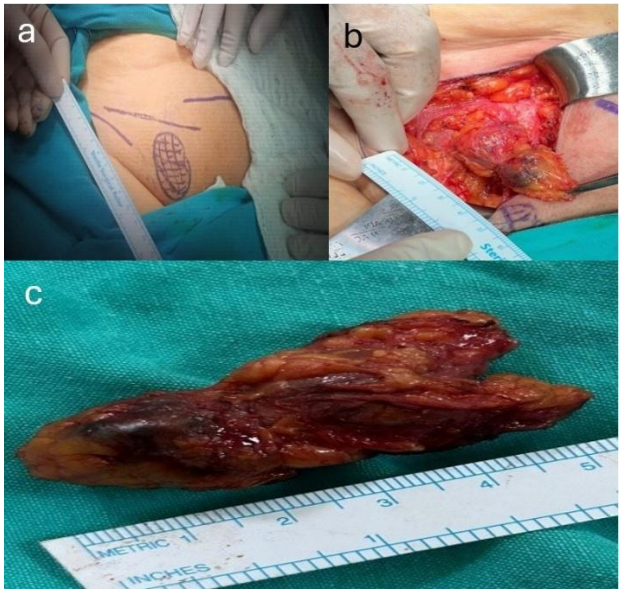

Figure 3. Surgical images

Histopathological examination revealed a well-defined tumor lesion on the outer surface. The tumor consisted of a cystic cavity filled with hemorrhagic fluid in most areas. In some areas, the epithelium was peeled off, but in other areas, there were papillary and micropapillary structures and mural nodule-like areas filled with tumor cells. The tumor had a high nuclear grade, psammomatous calcifications, and numerous atypical mitotic figures. Although small lymphoid cell populations were present in focal areas around the tumor, no distinct residual lymph node-like structures were observed. In immunohistochemical analyses, tumor cells were widely positive for CK7, WT-1, and PAX-8, weakly to moderately positive for ER (Estrogen Receptor), and showed abnormal expression with a zero pattern for p53. CK20, Calretinin, and D2-40 were negative. Based on histopathological and immunohistochemical staining results, the tumor was diagnosed as high-grade serous carcinoma (Figure 4).

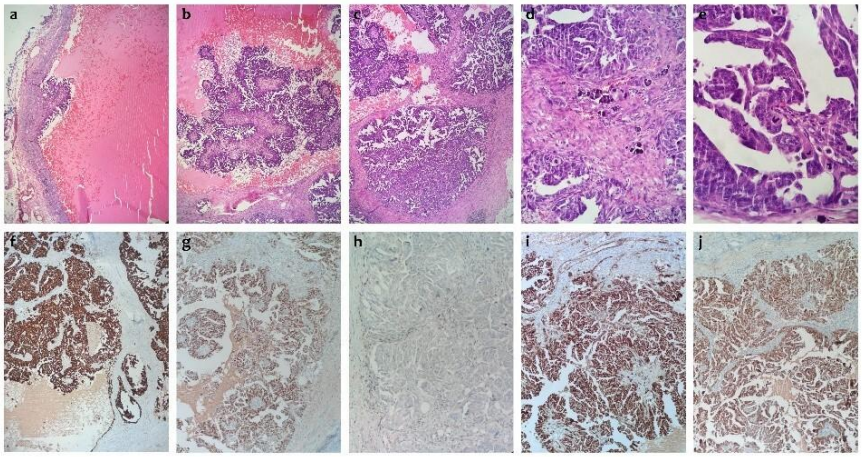

Figure 4. Histopathology evaluation images

Postoperatively, the patient was evaluated by medical oncology. To investigate a potential primary tumor source, chest and abdominal computed tomography (CT) as well as positron emission tomography–computed tomography (PET/CT) were performed; no other primary focus or systemic metastasis was identified. Based on these findings, the lesion was confirmed as a primary carcinoma of the canal of Nuck, and systemic adjuvant treatment was recommended. However, the patient subsequently defaulted from follow-up appointments, and therefore long-term oncological outcome and disease progression status could not be documented.

DISCUSSION

Nuck canal pathologies mostly present as Nuck canal cysts. When reviewing the literature, we found that primary malignancy of the Nuck canal is quite rare. In our literature review, we did not encounter any primary malignant tumors of the Nuck canal except for a few case reports. When we looked at the literature for primary malignancy of the Nuck canal, the first case report was presented in 1933 (5), and several more case reports followed after this case report. In 1938, Miller reported a 34-year-old female patient with papillary cystadenocarcinoma of the Nuck canal (6). Similarly, in 1951, a 45-year-old female patient was diagnosed with papillary cystadenocarcinoma (7). The case of primary Nuck canal adenocarcinoma presented by Sun et al. in 1979 is the fourth case report we encountered in the literature (8). Our case is the fifth case of primary Nuck canal malignant tumors in the literature. The reasons for this may include the rarity of primary Nuck canal tumors and the fact that they are not well known, which may cause them to be overlooked by clinicians.

CONCLUSION

Since primary malignant tumors of the Nuck canal are very rare, they are often overlooked or unknown in surgical practice. We recommend that Nuck canal cysts, even though they have a low likelihood of malignancy in clinical practice, be routinely sent for pathological examination. This case report was presented to remind clinicians of the potential for malignancy in Nuck canal pathologies and to share our experiences with them.

DECLARATIONS

Ethics approval and consent to participate

Ethical committee approval is not required for single case reports. Informed consent has been obtained from the patient for participation. All procedures performed in this study were conducted in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Declaration of Helsinki and subsequent amendments or similar ethical standards.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Data availability

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors contributed to patient management, manuscript preparation, and literature review. All authors read and approved the final manuscript.

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