

Endometriosis in the Mesothelial Cyst of the Round Ligament: Atypic Manifestation and Unusual Location: Case Report

Round Ligamentin Mezotelyal Kistinde Endometriyozis: Atipik Prezantasyon ve Nadir Lokalizasyon

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ABSTRACT A mesothelial cyst of the round ligament is a rare developmental disorder which is often misdiagnosed as an inguinal hernia. Here, we report a case of a 25-year-old female with a mesothelial cyst of the round ligament presenting as a palpable mass. Magnetic resonance examination demonstrated that the mass was hypointense on T1-weighted images and hyperintense T2-weighted images. In addition, there were fine hypointense septations inside the mass on the T2-weighted series. In the right inguinal area, the cyst was resected and reported as a mesothelial cyst of the round ligament accompanying endometriosis.

Key Words: Endometriosis; hernia, inguinal; magnetic resonance imaging; round ligament

ÖZET Round ligamentin mezotelyal kisti sıklıkla herni ile karışan nadir bir gelişimsel bozukluktur. Bu çalışmada 25 yaşındaki kadın hastada palpabl kitle olarak prezente olan round ligamentin mezotelyal kisti sunuldu. Kitle, manyetik rezonans görüntüleme T1 ağırlıklı kesitlerde hipointens, T2 ağırlıklı kesitlerde hiperintens olarak tespit edildi. Ek olarak T1 ağırlıklı kesitlerde kitlenin içinde ince hipointens septasyonlar mevcuttu. Sağ inguinal bölgedeki kist eksize edildi ve endometriyozisin eşlik ettiği round ligamentin mezotelyal kisti olarak rapor edildi.

Anahtar Kelimeler: Endometriyoz; fitik, inguinal; manyetik rezonans görüntüleme; halka ligaman

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In females, the round ligament is attached to the uterus near the origin of the fallopian tube and a small evagination of parietal peritoneum accompanies the round ligament through the inguinal ring into the inguinal canal. Mesothelial cyst of the round ligament is very rare and this lesion is frequently misdiagnosed as a more common pathological condition such as inguinal hernia, femoral hernia, or lipoma.¹⁻³ To our knowledge reports of radiological, operational and pathological findings of the round ligament have been very rare, and association of endometriosis with the cyst has not been previously described.

CASE REPORT

A 25-year-old woman presented with a palpable and painful mass in her right inguinal region which had first appeared 1.5 years ago. Physical exa-

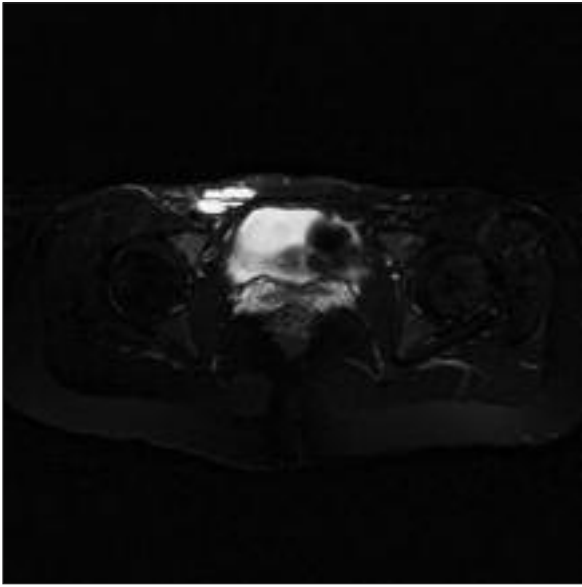


FIGURE 1a: Axial fat saturated T2-weighted image shows the hyperintense lesion with hypointense septae in the right inguinal region.

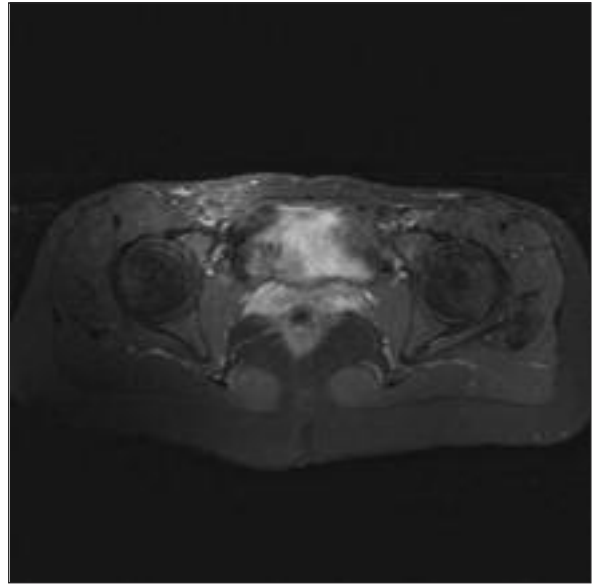


FIGURE 1b: Peripherally enhancement was seen after intravenous Gd-DTPA administration.

mination revealed that the approximately 3 x 3 cm mass of the right inguinal region was mobile under the surface plane, but fixed in depth, and was tender and irreducible. Cough elicited pain but no expansile impulse. There was no sign of inflammation. The left inguinal examination was normal. US examination of the surface tissue showed a 3.5 x 2 cm multiloculated cystic mass in the right inguinal region, extending longitudinally along the axis of the inguinal canal. In the right inguinal region, MRI showed a thin walled tense cystic mass which was hypointense on T1-weighted images and hyperintense T2-weighted images. The mass contained fine hypointense septations in T2-weighted series (Figure 1a, b). Based on the radiological findings, cyst of round ligament, hydrocele of the canal of Nuck and lymphangioma were suspected.

A completely walled-off, multiloculated cyst was found arising from the distal end of the round ligament and protruding through the subcutaneous inguinal ring. The abdominal and pelvic peritoneum revealed no evidence of endometriosis. The round ligament and cyst were liberated and mobilized, and the distal end of the round ligament and adherent cyst were excised. In addition, the hernia sac was detected and defect repaired by prolene mesh (Lichtenstein technique).



FIGURE 2: Gross specimen showing multilocular cysts.

The specimen consisted of a roughly cylindrical mass of tissue 7 x 2.5 x 1 cm, containing several cystic spaces (Figure 2). Histopathological examination revealed a cystic structure that was lined with flat epithelial cells which was immunohistochemically stained with a mesothelium marker (Figure 3). In the serial section, small foci endometrial stroma and haemosiderin laden histiocytes were seen in subepithelial areas. In one focus, endometrial epithelium and gland were seen (Figure 4).

Informed consent was obtained from the patient.

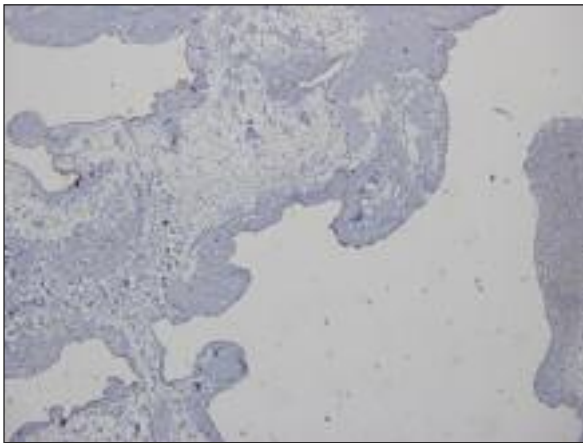


FIGURE 3: Photomicrograph of the mesothelial cyst of the round ligament, lined by low columnar epithelium which is stained by Mesotheline (Mesotheline X40).

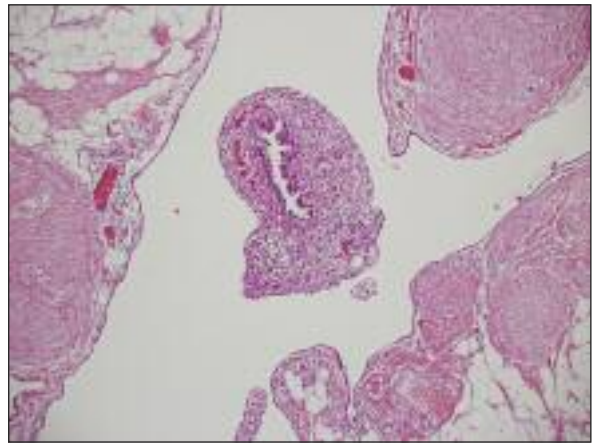


FIGURE 4: Low power view demonstrates the mesothelial cyst of the round ligament and endometrial gland and stroma (HEX100).

DISCUSSION

In women, the round ligament attached to the uterus close to the origin of the fallopian tubes and the extension of the parietal peritoneum follows the round ligament as it passes to the inguinal canal through the internal ring.¹⁻⁴ Nuck's canal, a portion of peritoneum known in man as processus vaginalis, carries some layers of the abdominal wall to be incorporated in the round ligament.^{1,4-6} Careful perusal of standard textbooks in pathology and surgery fails to reveal any mention of this condition.

According to some authors, the development of a cyst of the round ligament depends on a flawed obliteration of Nuck canal. They claim that a round ligament cyst is the same disease as a cyst of the canal of Nuck. According to another theory, it involves the inclusion of embryonic mesenchymal mesothelial elements or remnant during to development of the round ligament.^{1,7}

Mesothelial cyst of the round ligament is a rare lesion. Due to their location, it is readily understandable that they be mistaken for incarcerated inguinal or femoral hernia.¹⁻⁴ In one third of patients, an associated inguinal hernia is present, so diagnosis can be difficult.⁷ In our case inguinal hernia was associated to mesothelial cyst of the round ligament.

The cyst of the round ligament and hydrocele of the canal of Nuck show same radiological pres-

entation.^{1,4} In the literature, radiological findings, especially MRI findings in the hydrocele of the canal of Nuck, are described in a few cases, however, MRI findings of mesothelial cyst of the round ligament cyst have not been previously described.

Endometriosis in the inguinal region was first reported by Cullen in 1896 and the prevalence of endometriosis was found to be 0,3-0,6% in women.⁸

Extrapelvic endometriosis presenting as a hernia is often unrecognized by surgeons and the diagnosis is frequently made during the histological examination. Endometriosis is typically seen as a homogenous hypoechoic focal lesion with diffuse low-level internal echoes on US.⁹ Haemosiderin and methaemoglobin deposits which were seen in endometriosis were also able to the detected on MRI. However, considering the finding of Yang et al. inguinal endometriosis also could be seen as a multicystic mass without an internal echo.¹⁰ In our case endometriosis was not detected by US or MRI. In our case, endometriotic stroma and haemosiderin laden histiocytes were seen as small foci during the microscopic examination. Endometrial gland was seen only in one focus in a small area.

In conclusion, the mesothelial cyst of the round ligament is a rare development disorder and it should be included in differential diagnosis of inguinal masses in women. In addition endometriosis should be suspected in the lesion of the round ligament.

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