Health Leadership and Quality of Life. 2025; 4:843
doi: 10.56294/hl2025843

CASE REPORT

Ovarian teratoma in an adult patient: case presentation and literature review

Teratoma ovárico en paciente adulta: presentación de un caso y revisión de la literatura

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Cite as: Pérez Velilla MA, Toffoletti P, Garlisi Torales LD, Carvalho Santana RP. Ovarian teratoma in an adult patient: case presentation and literature review. Health Leadership and Quality of Life. 2025; 4:843. https://doi.org/10.56294/hl2025843

Submitted: 03-04-2025 **Revised:** 20-07-2025 **Accepted:** 16-10-2025 **Published:** 17-10-2025

Editor: PhD. Neela Satheesh

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ABSTRACT

This paper reports the clinical case of a 26-year-old adult female diagnosed with a mature ovarian teratoma. Ovarian teratomas are germ cell tumors composed of tissues derived from all three embryonic layers, more frequently seen in young women but rare in adults. The patient presented with severe lower abdominal pain; imaging revealed a 20 cm heterogeneous mass in the right ovary with hyperechoic areas suggestive of fat and calcifications. Emergency laparotomy with cystectomy and ovarian tissue preservation was performed due to suspected torsion. Histopathological examination confirmed a mature teratoma without malignancy. The postoperative course was favorable, with preserved ovarian function and no tumor recurrence during follow-up. This case highlights the relevance of early diagnosis and timely surgical management to prevent complications and preserve fertility in young women.

Keywords: Ovarian Teratoma; Germ Cell Tumor; Dermoid Cyst; Ovarian Torsion; Fertility Preservation.

RESUMEN

El presente trabajo describe el caso clínico de una paciente adulta de 26 años diagnosticada con teratoma ovárico maduro. Los teratomas ováricos son tumores de células germinales que contienen tejidos derivados de las tres capas embrionarias y, aunque son más comunes en mujeres jóvenes, su aparición en adultos es poco frecuente. La paciente consultó por dolor abdominal intenso; los estudios de imagen mostraron una masa heterogénea de 20 cm en el ovario derecho con áreas hiperecogénicas, compatibles con un teratoma quístico. Ante la sospecha de torsión ovárica, se realizó laparotomía de urgencia con quistectomía y preservación del tejido ovárico. El estudio histopatológico confirmó un teratoma maduro sin signos de malignidad. La evolución postoperatoria fue favorable, con función ovárica conservada y sin recurrencia tumoral en el seguimiento. El caso resalta la importancia del diagnóstico temprano y la intervención quirúrgica oportuna para evitar complicaciones y preservar la fertilidad en mujeres jóvenes.

Palabras clave: Teratoma Ovárico; Tumor de Células Germinales; Quiste Dermoide; Torsión Ovárica; Preservación de Fertilidad.

INTRODUCTION

Ovarian teratomas are germ cell tumors that account for about 20 % of ovarian neoplasms.[1] They are characterized by containing tissues derived from the three germ layers: ectoderm, mesoderm, and endoderm [2]. Their estimated incidence is 1/35 000 to 1/40 000 live births, being more common in newborns or infants and rare in adults.[3] Their origin is related to the aberrant differentiation of totipotent germ cells. They are generally benign (mature or cystic dermoid teratoma), although there are rare malignant forms.[4]

Most cases are diagnosed in young women of reproductive age and, although they are usually asymptomatic, they may present with abdominal pain, a palpable pelvic mass, or complications such as ovarian torsion.[5]

Sacrococcygeal localization is rare, occurring in 1:40 000 births. Although most are benign, up to 2 % may undergo malignant transformation.[4]

Based on histological analysis, they are classified as mature or immature, with the latter representing only 1 % of cases. 1-3 Although rare, with an incidence of 1 in 20 000 to 1 in 40 000 live births, teratomas are the most common congenital neoplasms. 1 - 3 These tumors generally occur along the midline of the body, with the sacrococcygeal region being the most frequent site (40 %).[5]

CASE REPORT

A 26-year-old female patient from an urban area, a university student with no relevant personal medical history. She denied any direct family history of cancer. The reason for consultation was lower abdominal pain that had been present for two weeks and was partially relieved by analgesics. One hour before the consultation, she presented with intense and continuous pain in the hypogastrium, which was not relieved by her usual medication.

On physical examination, she presented in fair general condition due to pain. Abdomen soft, painful on deep palpation in the hypogastrium, with no signs of peritoneal irritation. No masses were palpable on bimanual examination due to pain. Imaging and laboratory studies showed transvaginal ultrasound: heterogeneous image approximately 20 cm in diameter in the right ovary, with hyperechoic areas suggestive of fat and calcifications.

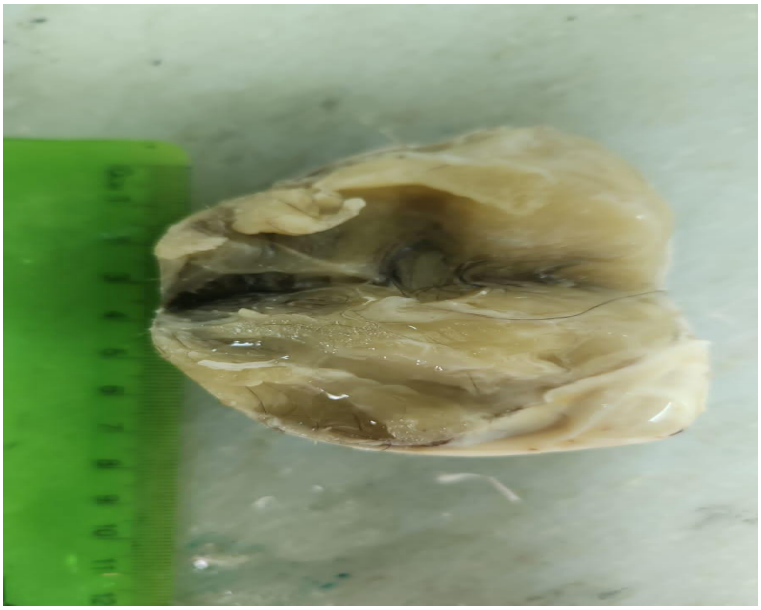
Laboratory tests determined that the complete blood count, biochemistry, and tumor markers (CA-125, AFP, β-hCG) were within normal parameters.

The surgical procedure or treatment for the case was an emergency laparotomy

due to suspicion of torsion or acute complication. A giant ovarian mass dependent on the right ovary was found, which was resected by cystectomy with preservation of the remaining ovarian tissue.

The histopathological result determined, as reported, a mature ovarian teratoma (dermoid cyst) with the presence of structures of ectodermal origin (skin, skin appendages), mesodermal origin (adipose tissue), and endodermal origin (glandular epithelium) with no signs of malignancy.

Regarding the patient's progress and follow-up: she progressed favorably in the immediate postoperative period, with adequate pain control and hospital discharge on the third day. In outpatient follow-up at three and six months, she was found to be asymptomatic, with preserved ovarian function and no evidence of tumor recurrence.



Note: Image provided by Dr. Paola Toffoletti
Figure 1. Ovarian teratoma in a 26-year-old patient

Note: Image provided by Dr. Paola Toffoletti
Figure 2. Ovarian teratoma in a 26-year-old patient

Note: Image provided by Dr. Paola Toffoletti
Figure 3. Ovarian teratoma in a 26-year-old patient

Note: Image provided by Dr. Paola Toffoletti
Figure 4. Ovarian teratoma in a 26-year-old patient

https://doi.org/10.56294/hl2025843 ISSN: 3008-8488

DISCUSSION

This case illustrates a large mature ovarian teratoma with acute presentation. Although most of these tumors are small and asymptomatic, they sometimes reach significant sizes that cause compression symptoms or acute pain, requiring immediate surgical intervention. Preservation of ovarian tissue is essential in young women to maintain fertility. Histopathological examination is key to ruling out malignant transformation, a rare but possible complication.[2,3,4,5]

Most sacrococcygeal teratomas are diagnosed in the neonatal period,[4,5] being exceptional in adults. In adults, the risk of malignant transformation can reach 30 %.[6] In our case, complete resection prevented complications and no malignancy was evident.

The clinical case describes a 26-year-old female patient with a mature ovarian teratoma, which is consistent with the literature, as more than 80 % of mature teratomas affect women of reproductive age, between 20 and 40 years of age.[7]

Regarding the imaging findings: Transvaginal ultrasound showed a heterogeneous image of approximately 20 cm in the right ovary, with hyperechoic areas suggestive of fat and calcifications, typical characteristics of a mature cystic teratoma.[8]

The patient presented with severe abdominal pain due to suspected ovarian torsion, a common complication in mature teratomas, which occurs in approximately 16 % of cases.[9]

Unusual aspects: Although the clinical case does not present any unusual aspects in terms of age of presentation, imaging findings, or complications, it is relevant to mention that mature teratomas can rarely undergo malignant transformation. However, in this case, the histopathological result was negative for malignancy, which is consistent with the literature.[10]

The diagnosis was based on a combination of the clinical history, imaging findings, and laboratory results. Transvaginal ultrasound revealed an ovarian mass with characteristics typical of a mature teratoma, and tumor markers (CA-125, AFP, β-hCG) were within normal parameters, which is characteristic of mature teratomas.[11]

Regarding treatment: given the suspicion of ovarian torsion, an emergency laparotomy was performed, revealing a giant ovarian mass attached to the right ovary, which was resected by cystectomy with preservation of the remaining ovarian tissue. This therapeutic approach is appropriate, as simple cystectomy is adequate for benign cystic teratomas.[12,13]

The patient progressed favorably in the immediate postoperative period, with adequate pain control and hospital discharge on the third day. At the three- and six-month outpatient follow-up, she was found to be asymptomatic, with preserved ovarian function and no evidence of tumor recurrence. This follow-up is essential, as mature teratomas can rarely recur.

CONCLUSIONS

Ovarian teratoma in adults is rare and may remain asymptomatic until it reaches a large size. Timely diagnosis and complete surgical resection are essential for a favorable prognosis. Mature ovarian teratoma is a common tumor in young women, usually benign, but it can grow to considerable size and cause gynecological emergencies. Timely diagnosis and appropriate surgical resolution allow for a good prognosis and preservation of reproductive function.

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FUNDING

None.

CONFLICT OF INTEREST

None.

AUTHOR CONTRIBUTION

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