



## Case report

## Treatment of bilateral ovarian dysgerminoma with 11-year follow-up: A case report

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## ABSTRACT

**Introduction:** Malignant ovarian germ cell tumors (MOGCTs) are rare malignancies with an incidence of about 0.5/100,000. They account for less than 5% of all ovarian tumors, of which 32.8% are dysgerminomas, the female analogue of seminomas. These tumors occur in all age groups, with peak incidence below the age of 20 years in women.

**Aim:** To describe the case of a bilateral ovarian dysgerminoma treatment with 11-year follow-up.

**Methods:** Case report with details regarding clinical history, surgical treatment, chemotherapy and follow up. We include a brief literature review.

**Results:** The patient underwent radical surgery for an advanced dysgerminoma, 20 cm in length, that compromised the contralateral ovary and sigmoid. Neoplastic cells were found in ascitic fluid. Subsequently, she underwent adjuvant chemotherapy according to a standard protocol. She has survived disease-free for more than 11 years.

**Conclusions:** Dysgerminoma is a malignant neoplasm that, similar to other cancers, is easier to treat when diagnosed early. However, cures may be obtained even in advanced cases.

## 1. Introduction

Malignant ovarian germ cell tumors (MOGCTs) are rare malignancies with an incidence of about 0.5/100,000. They account for less than 5% of all ovarian tumors, of which 32.8% correspond to dysgerminomas, the female analogue of seminomas. These tumors occur in all age groups, with peak incidence below the age of 20 years in women [1–5]. The aim of the manuscript was to report on a case of 16-year-old female who underwent radical surgery and chemotherapy for an advanced dysgerminoma. The work has been reported in line with the SCARE criteria [6].

## 2. Case report

## 2.1. Clinical history

A 16-year-old single female Caucasian presented with painless increase in abdominal volume of 1 month's duration. This was associated with fever and weight loss of 10 kg over 2 months. Past medical history

was notable for menarche at age 12. She denied smoking, alcoholism, and drug use.

The physical examination revealed a palpable, indurated, painless mass in the lower portion of the abdomen, more than 15 cm in length.

Imaging revealed a solid, heterogeneous ovarian mass, with well-defined limits, measuring 148 × 135 × 101 mm, volume 1067 cm<sup>3</sup>, with high-speed arterial flow and low resistance in internal vessels. Estimated weight was 1500 g. Serum Cancer Antigen 125 (CA-125) level was 193 U/mL. There were no abnormalities in other laboratory tests and no evidence of distant metastases.

## 2.2. Treatment

The tumor mass was resected within the left ovary. Pathological analysis revealed a tumor of 200 × 160 × 120 mm, weighing 1627 g. Pathology revealed a dysgerminoma with focal extension to the outer capsular surface, and presence of neoplastic cells in the ascitic fluid. She underwent cytoreductive surgery. We noted adhesions with surrounding viscera. Therefore, we performed right oophorectomy, total

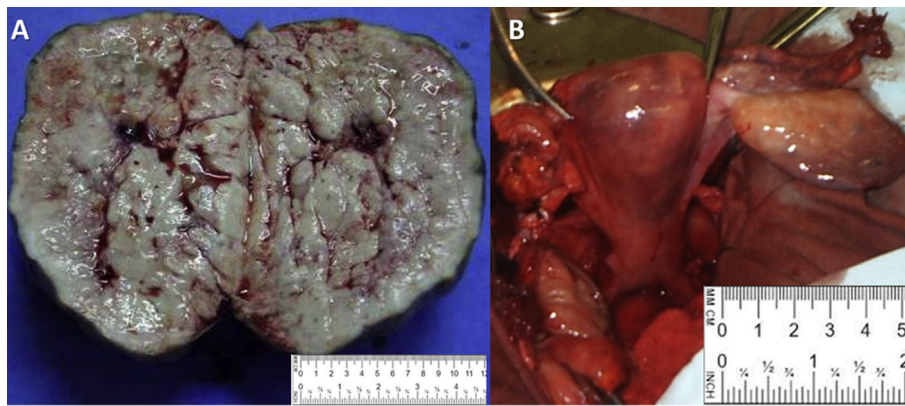
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**Fig. 1.** a. Left ovary removed and incised longitudinally, revealing its interior; b. Surgical site during the intervention, presenting contralateral ovarian dysgerminoma with sigmoid adhered to the surgical site.

hysterectomy, lymphadenectomy, omentectomy, and sigmoidectomy *en bloc* with the lesion. We then performed end-to-end anastomosis (Fig. 1). After cytoreductive surgery, pathology revealed that there was chronic cervicitis with squamous metaplasia in the uterine cervix, lymph nodes with reactive lymphoid hyperplasia without neoplasia, and dysgerminoma in the remaining ovary with subcapsular space impairment, without capsule infiltration.

Her postoperative course was unremarkable for the first three days. Subsequently, she experienced abdominal pain, fever, and fecal discharge from the incision. We diagnosed a low output colonic fistula. We managed this with antibiotic therapy and oral nutritional support. There was complete closure of the fistula in approximately 1 month. She underwent adjuvant chemotherapy with bleomycin, etoposide, and cisplatin for 3 cycles.

### 2.3. Follow up

At outpatient follow-up, she had no evidence of relapse, with normalization of weight, development, and laboratory parameters. She underwent hormonal replacement and has been well for 11 years. An interesting fact was that the patient discovered her aptitude for medicine, and directed her studies to nursing. She works in the same hospital where she underwent surgery and is now describing her own case together with the treatment team.

### 3. Discussion

The ovary can host the most diverse and rare types of neoplasms. In addition, it can reach large dimensions until the first symptoms appear [7–11]. This report describes a case of an unusual disease, treated radically with optimal survival and effective cure, which is important to enrich the current literature about rare ovarian neoplasms. There was also an unusual outcome in her private life.

For MOGCTs in young patients, it is recommended that surgery be as conservative as possible. The majority (75%) of the patients are diagnosed as FIGO stage I. The 5-year survival of the affected patients is 95%. However, this patient was in stage IIC (T2C, N0, M0) according to The American Joint Committee on Cancer (AJCC) TNM classification and the International Federation of Gynecology and Obstetrics (FIGO) staging system for germ cell tumors. Omentectomy and hysterectomy can usually be avoided in early cases of MOGCT [1–5]. However, we opted for radical cytoreductive surgery, because of this tumor's bilaterality, large dimensions, the presence of neoplastic cells in the peritoneal fluid, and the extracapsular invasion of the tumor with invasion of the colon. We performed lymphadenectomy, hysterectomy, partial colectomy, and omentectomy.

The presence of residual tumor after surgery appears to be the single most important poor prognostic factor. In Li's study of 34 patients who

underwent salvage cytoreductive surgery, 5-year survival was 61% in the optimally cytoreduced group ( $\leq 1$  cm), compared with 14% in the suboptimally cytoreduced group [12]. Meisel found recurrence in 31% patients [4], despite good results with more conservative surgery.

Our patient's case fell within the limits of the Solheim classification: of 815 ovarian dysgerminoma patients, 93% were less than 40 years old, 69% were single, and 69% had educational class 2 (intermediate) or 3 (highest). Although there was a reasonable survival rate, they found that the risk of death from ovarian cancer was 9-fold greater in dysgerminoma patients [13]. Bilaterality is rare in MOGCTs, with a reported prevalence of 4.3%–6.9%. The rate increases to 10%–15% for dysgerminomas [14].

Adjuvant chemotherapy is the only independent prognostic factor for longer disease-free survival, and is considered essential for all patients, apart from those with stage IA disease [3]. Adjuvant chemotherapy with bleomycin, etoposide, and cisplatin is considered standard, even for advanced stage disease [15].

In spite of radical surgery, the patient overcame all her obstacles: not only with respect to disease itself, but also in her personal and professional life.

### Provenance and peer review

Not commissioned, externally peer-reviewed.

### Ethics approval and consent to participate

The study was approved by the Institution's Ethics Committee and written informed consent was obtained from the patient for publication of this case report and accompanying images.

### Funding

The referred patient was attended in a public hospital where the authors work and the study did not receive any financial contribution.

### Conflicts of interest

All the authors report no financial interests or potential conflicts of interest.

### Registration of research studies

Not applicable.

### Guarantor

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## Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.amsu.2018.08.009>.

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