

Case Report

Giant ovarian cyst mimicking no-weight loss after sleeve gastrectomy

Gerardo D'Amato¹, Mario Musella¹, Carolina Bartolini¹, Lucrezia Borrelli¹, Alessandra D'Ambrosio¹, Antonio Franzese¹, Vincenzo Schiavone¹, Chiara Bellantone², Chiara Caricato³, Mafalda Ingenito^{1,*}

¹Dipartimento di Scienze Biomediche Avanzate, Università degli Studi di Napoli "Federico II", Napoli 80131, Campania, Italia

²Dipartimento di Nutrizione Clinica e Diabetologia, Ospedale San Carlo di Nancy – GVM, Roma 00165 Lazio, Italia

³Department of Woman's and Child Health and Public Health Sciences, Gynecologic Oncology Unit, Università Cattolica del Sacro Cuore, IRCCS, Campus di Roma, Roma 00168, Lazio, Italia

*Corresponding author. Department of Advanced Biomedical Sciences, University of Naples "Federico II", Via Sergio Pansini 5, 80131 Naples, Italy. Tel: +39 3391133332; E-mail: mafalda.ingenito@outlook.it

Abstract

Giant ovarian cysts (GOC) are rare due to early ultrasound detection but may reach large dimensions, causing complications. Most are benign mucinous cystadenomas, though borderline or malignant forms exist. A 20-year-old woman, previously submitted to sleeve gastrectomy, presented with acute abdominal pain. Imaging showed a cystic mass measuring 32 × 27 cm, compressing bowel loops and the inferior vena cava. A midline laparotomy was performed with complete excision of the intact mass. Histology confirmed benign mucinous cystadenoma of the left ovary. Recovery was uneventful, and the patient was discharged on Day 3. This case emphasizes the challenges of GOC management in young women and the potential risks of diagnostic delay due to obesity condition. While laparoscopy may be feasible in selected cases, laparotomy is preferred for very large lesions. Fertility preservation, multidisciplinary planning, and surgical strategy are essential. Personalized management allows safe outcomes and fertility preservation in GOC.

Keywords: giant ovarian cysti; mucinous cystadenoma; obesity; sleeve gastrectomy; no-weight loss

Introduction

Ovarian cysts are one of the most common gynecological conditions. However, so-called giant ovarian cysts (GOC) are now a rare clinical entity, as ovarian lesions are generally diagnosed and treated before they reach extreme dimensions. There is no clear consensus on the definition: some series define "giant" cysts as those >10 cm, while others use cut-offs of 15 or 20 cm, or refer to abdominal distension beyond the umbilicus [1].

Giant masses are most often benign mucinous or serous cystadenomas; however, the risk of borderline or malignant neoplasia is significant [2, 3]. Patients may present with mass-effect symptoms (distention, abdominal pain, changes in bowel movements, or urination) or acute complications such as torsion, rupture, and hemoperitoneum [4, 5].

Diagnosis is primarily based on transvaginal and abdominal ultrasound, with possible support of computed tomography (CT) or magnetic resonance imaging (MRI) in complex cases or to define anatomical relationships. The International Ovarian Tumor Analysis (IOTA) criteria and the Assessment of Different Neoplasias in the adnexa (ADNEX) model improve the discrimination between benign and malignant lesions [6]. Serum markers

such as CA-125 and HE4 have a complementary role, particularly in the selection of patients to be referred to gynecological oncology centers [7].

Treatment is almost always surgical; laparoscopy is now feasible even for large masses, with benefits in terms of postoperative pain and functional recovery, but requires controlled decompression techniques to avoid spillage [8, 9]. Laparotomy remains indicated in the presence of suspected cancer or when the size/adhesions make the minimally invasive approach risky [10].

Case report

A 20-year-old woman with no significant comorbidities, who had undergone a sleeve gastrectomy 4 years earlier for severe obesity (BMI 42 kg/m²), presented to the emergency room with episodes of acute, severe abdominal pain that had been on for several hours. On physical examination, the abdomen appeared globular and tense, with evident distention predominantly on the left side. It was non-tender to superficial palpation but with moderate,

Received: September 12, 2025. Accepted: October 12, 2025

© The Author(s) 2025. Published by Oxford University Press and JSCR Publishing Ltd.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact reprints@oup.com for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact journals.permissions@oup.com.

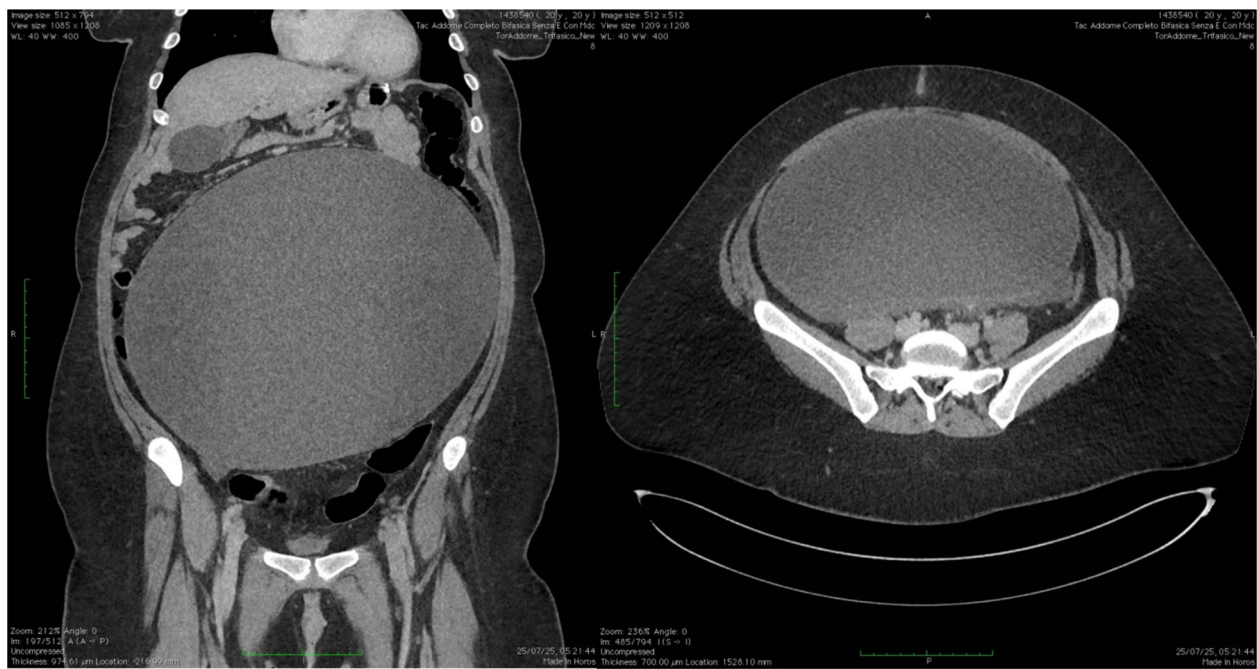


Figure 1. CT scan showing ovarian cyst compressing the small bowel in the epigastrium (longitudinal and transversal section).

diffuse deep tenderness. There were no signs of peritoneal irritation or palpable, well-demarcated masses; peristaltic sounds were normal.

Abdominal ultrasound revealed a large, anechoic mass, apparently multicompartmental, located predominantly on the left side but also extending to the pelvis. A subsequent abdominal CT scan with contrast revealed a large cystic mass measuring approximately 32×27 cm, presumably originating from the adnexal region, extending from the mesogastric region to the pelvis. The lesion caused compression on the small intestinal loops, located in the epigastric region but without signs of occlusion, and significant compression of the infrarenal inferior vena cava. No free effusion or signs of metastasis were detected (Fig. 1).

Given the symptoms, the exceptional size of the mass, and the radiological findings, the patient underwent open surgery, considering the previous surgical procedure which could have caused adhesions, through a median incision of ~20 cm. Upon opening the abdominal cavity, a thin-walled, multicompartmentalized cystic mass of left ovarian origin was discovered, occupying almost the entire abdominal and pelvic cavity. After careful isolation of the lesion, a cystectomy was performed with complete removal without intraoperative rupture and minimal blood loss (Fig. 2). The contralateral ovary appeared to be of regular morphology and size.

The final histological examination documented a benign mucinous cystadenoma of the left ovary, without evidence of atypia or borderline/malignant components.

The postoperative course was uneventful, with recovery of intestinal canalization on the second day and discharge on the third post-operative day in good general condition.

Discussion

The case described fits into the literature on GOC, which, despite being rare, poses significant diagnostic and therapeutic challenges. Mucinous cystadenomas are the most frequently

associated with exceptional volumes. [2] Borderline and malignant tumors, however, represent 10%–20% of cases, a percentage sufficient to justify a thorough onco-gynecological evaluation.

Patients typically present with significant abdominal distension, sometimes mistaken for obesity or ascites. In fact, in this case the patient, despite the previous sleeve gastrectomy was still in an high stage of obesity (39 kg/m^2) and this could have been the reason of diagnostic delay. Certainly, the lesion was not present at the moment of the surgical bariatric procedure (sleeve gastrectomy) that was performed in 2021. At the same time it is reasonable to assume that the lesion developed over time but, just one month earlier the surgery, the patient referred abdominal pain. Thanks to these symptoms the patient discovered her problem. The pain may result from capsular stretching, torsion, or visceral compression. Cases of urinary retention, intestinal obstruction, and even thromboembolic complications due to venous stasis have been described [4, 5].

Ultrasound remains the first-line diagnostic method. The application of the IOTA criteria (Simple Rules, ADNEX model) achieves an accuracy >90% in the benign/malignant distinction [11]. CT or MRI are particularly useful in giant masses to evaluate the anatomical relationships, the presence of ascites or metastases and to plan the surgical approach [6]. The markers CA-125 and HE4, although with specificity limits, support preoperative stratification, especially in post-menopausal women [7].

Laparoscopy for giant cysts has been widely described as feasible and safe in selected cases [9]. Techniques used included supraumbilical or xiphoid trocar access or intraoperative decompression via endoscopic bag aspiration or mini-laparotomy. It's important to be careful to hemodynamic instability after rapid emptying of masses >10–15 kg.

Comparative studies as Wang et al. 2021 show significant advantages in terms of hospital stay and recovery, with no increase in recurrences or complications when appropriate selection is made [12]. However, laparotomy remains the standard of care in the presence of suspected cancer, the need for staging, or excessively large masses [10].

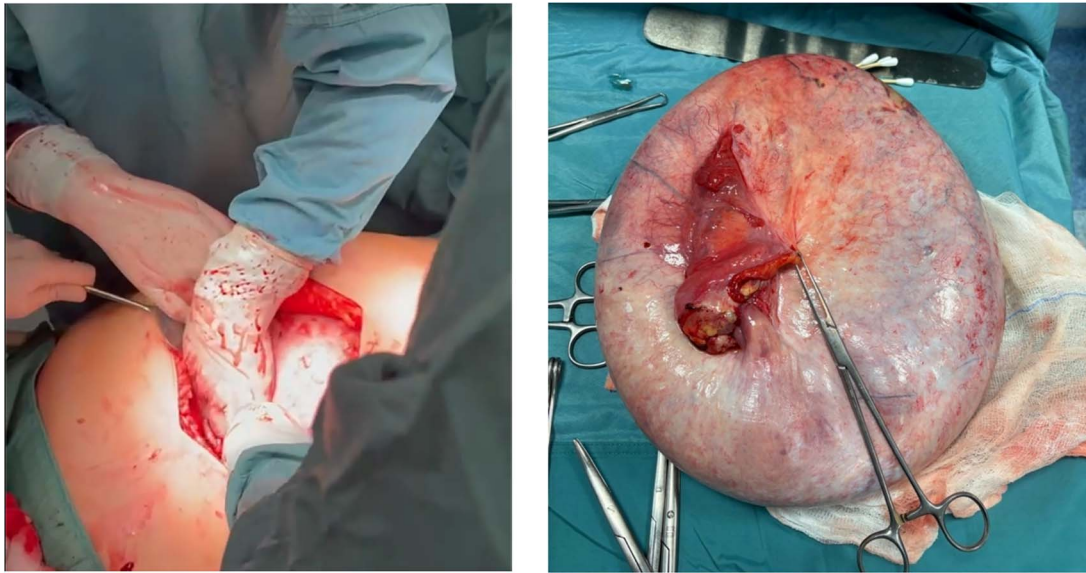


Figure 2. (a) Mini-laparotomy (about 25 cm) for removal of the lesion. (b) Intact surgical specimen.

In young or adolescent patients, the goal is ovarian preservation, when possible. The laparoscopic approach is associated with a lower impact on fertility and a shorter hospital stay [13]. During pregnancy, management requires a multidisciplinary team: the second trimester is preferred for possible surgery, reserved for symptomatic, complicated or suspicious masses [14].

Conclusion

GOC are now a clinical rarity, but they can still present with massive symptoms or serious complications. The literature emphasizes the importance of a multidisciplinary and personalized approach thorough preoperative stratification with imaging and biomarkers, choice of the type of surgical procedure (laparoscopy vs. laparotomy) based on oncological risk and technical feasibility and attention to fertility preservation in young patients.

The reported case adds to existing evidence, helping to underscore the importance of early diagnosis and safe, targeted surgical strategies.

While the surgical management of GOC follows established standards, we believe this case highlights some important and less frequently reported aspects; obesity masking the presence of a large abdominal lesion: despite undergoing bariatric surgery, the patient remained in a high obesity range (BMI 39 kg/m² at presentation). The persistence of abdominal distension was initially attributed to insufficient weight loss rather than to the presence of a growing intra-abdominal mass. This likely contributed to a diagnostic delay.

Although the patient underwent sleeve gastrectomy, the expected postoperative weight reduction was limited due to the presence and progressive growth of the ovarian cyst, which contributed to abdominal volume and hindered the perception of effective weight loss.

This case suggests that in obese patients, particularly those undergoing bariatric procedures, persistent or disproportionate abdominal distension should prompt careful imaging assessment, as obesity itself can mask significant intra-abdominal pathology,

reinforcing the need for awareness of gynecological causes of abdominal distension in obese and post-bariatric patients, to avoid delays in diagnosis and treatment.

Conflict of interest statement

None of the authors have any conflicts of interest to declare.

Funding

No external funding was received for this study.

Ethical approval

We did not require ethical approval from our EC (Campania 3, Naples, Italy) for case reports.

Consent

The patient provided informed written consent.

References

1. Melnyk M, Starczewski A, Nawrocka-Rutkowska J, et al. Giant ovarian tumors in young women: diagnostic and treatment challenges-a report of two cases and narrative review of the recent literature. *J Clin Med* 2025;**14**:1236. <https://doi.org/10.3390/jcm14041236>
2. Gwanzura C, Muyotcha AF, Magwali T, et al. Giant mucinous cystadenoma: a case report. *J Med Case Reports* 2019;**13**:181. <https://doi.org/10.1186/s13256-019-2102-z>
3. Posabella A, Galetti K, Engelberger S, et al. A huge mucinous cystadenoma of ovarian: a rare case report and review of the literature. *Rare Tumors* 2014;**6**:5225. <https://doi.org/10.4081/rt.2014.5225>
4. Kazlauskaitė J, Chmieliauskas S, Vasiljevaitė D, et al. Incidental discovery of giant ovarian cysts during autopsy. *Case Anal Lit*

- Review *Acta Med Litu* 2024;**31**:394–403. <https://doi.org/10.15388/Amed.2024.31.2.16>
5. Pramana C, Almarjan L, Mahaputera P, et al. A giant ovarian cystadenoma in a 20-years-old nulliparous woman: a case report. *Front Surg* 2022;**9**:895025. <https://doi.org/10.3389/fsurg.2022.895025>
 6. Timmerman D, Planchamp F, Bourne T, et al. ESGO/ISUOG/IO-TA/ESGE consensus statement on preoperative diagnosis of ovarian tumours. *Facts Views Vis Obgyn* 2021;**13**:107–30. <https://doi.org/10.52054/FVVO.13.2.016>
 7. Practice Bulletin no. 174: evaluation and management of adnexal masses. *Obstetr Gynecol* 2016;**128**:e210–26. <https://doi.org/10.1097/AOG.0000000000001768>
 8. Dubuisson J, Heersche S, Petignat P, et al. Laparoscopic management of giant ovarian cyst using the Alexis laparoscopic system: a case series. *Front Surg* 2020;**7**:24. <https://doi.org/10.3389/fsurg.2020.00024>
 9. Alobaid A, Memon A, Alobaid S, et al. Laparoscopic management of huge ovarian cysts. *Obstet Gynecol Int* 2013;**2013**:380854. <https://doi.org/10.1155/2013/380854>
 10. ESGO guidelines for ovarian cancer surgery. *Int J Gynecol Cancer* 2021.
 11. Van Calster B, Van Hoorde K, Valentin L, et al. International ovarian tumour analysis group. Evaluating the risk of ovarian cancer before surgery using the ADNEX model to differentiate between benign, borderline, early and advanced stage invasive, and secondary metastatic tumours: prospective multicentre diagnostic study. *BMJ* 2014;**349**:g5920. <https://doi.org/10.1136/bmj.g5920>
 12. Wang X, Li Y. Comparison of perioperative outcomes of single-port laparoscopy, three-port laparoscopy and conventional laparotomy in removing giant ovarian cysts larger than 15 cm. *BMC Surg* 2021;**21**:205. <https://doi.org/10.1186/s12893-021-01205-3>
 13. Murawski M, Gołębiewski A, Sroka M, et al. Laparoscopic management of giant ovarian cysts in adolescents. *Wideochir Inne Tech Maloinwazyjne* 2012;**7**:111–3.
 14. ESGO–ESMO–ESP consensus on adnexal masses in pregnancy. *Ann Oncol* 2021.