

# Massive infectious ovarian cyst represented as a massive ascites: A case report at Binh Dan hospital

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## ABSTRACT

**Background:** Cystic abdominal tumors are extremely common and now they are diagnosed more frequently and earlier due to availability of better imaging modalities. Giant ovarian cysts (GOC) are fluid-filled sac or pocket measuring more than 10 cm developed at the expense of the female gonad. GOCs are rare nowadays due to early diagnosis and appropriate management thanks to new diagnostic technology. Occasionally, infectious GOCs still occur. This case study describes how a substantial ovarian cyst might cause ascites in a postmenopausal lady to be misdiagnosed. Factors related to the late hospitalization of giant ovarian cyst have also been noted. **Case presentation:** Data were collected by historical review, clinical examination, laboratory investigation, imaging examination, and by histopathological study of the excised surgical specimen. We present a clinical case of a 62-year-old woman admitted to our emergency department with abdominal pain and distention misdiagnosed as a massive ascites. Abdominopelvic ultrasound scan revealed a left giant multiloculated ovarian cyst and the same result was confirmed with a multi-slice computed tomography (MSCT) scan of the abdomen and pelvis. She then had a safe left salpingo-oophorectomy performed after laparotomy in Binh Dan hospital, followed by an uneventful postoperative stay. The histopathology of the operative specimen indicated mucinous cystadenoma of the ovary. **Conclusion:** GOC may manifest as significant ascites, which can perplex clinicians in clinical practice. We submit this case to raise the possibility of giant ovarian cysts in all women who arrive with substantial ascites, necessitating the need to rule them out. An abdominal and pelvic ultrasound scan may help with the diagnosis in environments with limited resources. When there is a suspicion of an intra-abdominal cyst in cases of ascites, paracentesis should generally be avoided.

**Key words:** Giant ovarian cyst, Abdominal distension, Ascites, Case report

## BACKGROUND

Ovarian cysts of a diameter greater than 10cm are rare nowadays. Since ovarian cysts present no symptoms early, many Vietnamese patients present in the hospital when the tumors are large and in the late stage. Clinical symptoms of ovarian cysts are gradual abdominal distension, nonspecific diffuse abdominal pain, and vaginal bleeding. Some patients may develop symptoms related to organ compressions such as constipation, intestinal obstruction, and increasing vomiting. According to the literature, the true prevalence of GOC is unclear, but due to advances in imaging technology, ovarian cysts are typically detectable early. Most GOCs are benign and are treated surgically with either cystectomy or salpingo-oophorectomy. There have been a few reports of GOCs with infection masquerading as ascites, and this is one of them.

## CASE PRESENTATION

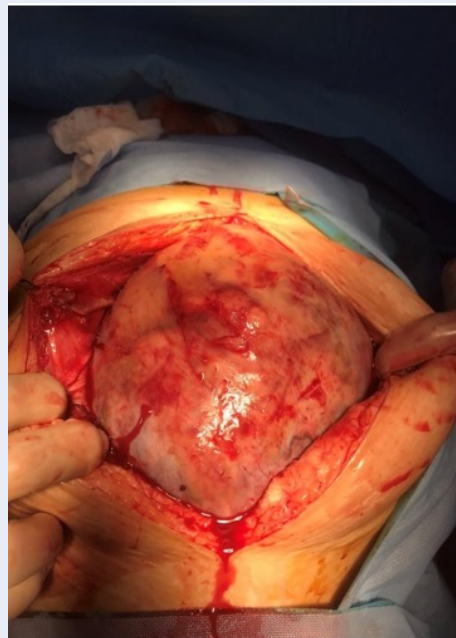
In this report, we present the case of a 62-year-old Vietnamese woman hospitalized in our emergency

department because of suspicion of a massive infectious disease. She had a 1-year history of progressive abdominal distension, slight abdominal pain, and complaining of extended nausea and vomiting, which became severe recently, especially after eating. She has been diagnosed with diabetes mellitus for five years.



Figure 1: Grossly distended abdomen

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**Figure 2:** Abdomen showing the midline incision

Clinical examination revealed her pulse was 96 beats/minute, slightly fever (37,8 oC), her blood pressure was normal, and her weight was 58 kg. Her abdomen was grossly distended with full flanks (Figure 1). It was soft and non-tender with an abdominal circumference of 125 cm. There was dullness over the entire abdomen by percussion, and a fluid thrill was present. The paraclinical examination was recorded: a complete blood count with a hemoglobin level of 11,6 g/dl, white blood cells was 15,49 k/ $\mu$ L, and an abdominal ultrasound scan which suggests a massive fluid-filled multilocular cavity of left ovarian origin with a thin covering. Abdominopelvic multi-slice computed tomography (MSCT) scan revealed a left giant multiloculated ovarian cyst (Figure 4). Other hematological or biochemical serum tests were normal with AFP value < 2 ng/mL, CEA value was 3.21 ng/mL, CA 125 was 33.3 U/mL. HE4 and Beta HCG were not recorded. We concluded with the diagnosis of a left giant infectious multiloculated ovarian cyst. A left salpingo-oophorectomy proceeded with a midline incision (Figure 2). Mucinous tumors were considered before and during surgery. The process of dissection and removal of the entire cyst is easy without rupturing it. The cyst was then drawn out with integrated membranes, and it measured 50 × 50 × 30 cm and weighed 11.8 kg (Figure 3). There were about 8 liters of green infectious fluid inside the cyst, however, the fluid analysis was not recorded at

the time. Histopathology revealed mucinous cystadenoma. The postoperative period was uneventful, and she was discharged on the 7th postoperative day with a weight of 50 kg. Follow-up post surgery has not recorded any complications.



**Figure 3:** Massive ovarian cyst

## DISCUSSION AND CONCLUSION

GOCs continue to be a challenge in clinical practice due to their nonspecific clinical presentations<sup>1,2</sup>. Different diagnoses include pelvic endometriosis, intra-abdominal pregnancy, and intra-abdominal cysts from varying origins (omentum, ovary, kidney, liver, pancreas, cystic lymphangiomas, choledochal cysts), hydronephrosis and accentuated obesity<sup>2,3</sup>. In 10% of cases, giant mucinous ovarian cyst adenomas are bilateral<sup>4</sup>. In our case, the tumor was uni-lateral affecting the left ovary. GOC can become infection (this case), torsion, suppuration, intestinal obstruction, and perforation that warrant urgent admission<sup>5</sup>. GOCs may present as ascites and can be misdiagnosed<sup>3,6-9</sup>. In this case, GOC was mistaken as a massive ascites and was only confirmed only after ultrasound and MSCT findings.

Imaging studies, with their high specific rate, have played a pivotal role in the early diagnosis of ovarian cyst, which helps decrease MOC incidence. Ultrasound, readily available in many centers and harmless, is usually the first imaging modality to assess ovarian cysts before MRI or MSCT<sup>7,10</sup>. As well as CT scan,

abdomen and pelvic ultrasound is important imaging modality if there is any tenderness or suspicion of abdominal mass to assess for size, complexity, and location of pathology<sup>11</sup>. Ultrasound should be used with caution in patients with no apparent etiology of ascites based on clinical manifestations as it is often operator reliant<sup>8</sup>. The most important potential hazard of aspiration is the possibility of cell spillage into the abdominal cavity or aspiration site with potential for subsequent seeding. Even though there are no prospective data to state that a cell spillage will worsen prognosis for sure, it is better to avoid these procedures whenever possible<sup>12</sup>.



Figure 4: Massive ovarian cyst showed by MSCT

The prevalence of malignant ovarian cysts is relatively high, accounting for more than 10% of all GOCs<sup>3</sup>. It is difficult to rule out all cases of ovarian cysts due to their lack of specific signs or symptoms in the early stage. Tumor markers like antigen 125, carcinoembryonic antigens, beta-human chorionic gonadotropin, and alpha-fetoprotein may help in early suspicion, follow-up, and point out various subtypes of ovarian cancers<sup>13,14</sup>. A high index of suspicion that a mucinous tumors is actually a metastasis from another organ is required by pathologists and gynecologists to prevent misdiagnosis of a metastatic neoplasm as a primary ovarian tumor. Secondary mucinous tumors are significantly more often bilateral and <10 cm in maximal dimension. Numerous immunohistochemical stains proposed to aid in the differential diagnosis of primary vs. secondary mucinous tumors also are reviewed<sup>15</sup>.

Ovarian cysts can grow rather large in rare cases without generating noticeable symptoms<sup>9</sup>. A GOC, as large as 148.6 kg, has been documented in the literature without any symptoms<sup>6,16</sup>. MOCs are referred

to as early diagnosis and management due to advances in imaging technology, but still, there, GOCs occur in some remote areas in Vietnam<sup>6</sup>. Late presentation, lack of vigilance awareness, false cultural beliefs, and the fear of surgical procedures are the causes of many GOCs' hospitalizations<sup>2,17</sup>.

This case report emphasizes that a large cystic ovarian cyst could present as an ascites and the need to exclude them in all women presenting with massive ascites. In limited-resource settings, an abdominopelvic ultrasound and an MSCT may assist in the diagnosis.

## CONSENT

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

## CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

## AUTHORS' CONTRIBUTION

Pham PV, Nguyen DHN had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

*Study concept and design:* Pham PV, Nguyen NBM

*Drafting of the manuscript:* Pham PV, Nguyen MP

*Supervision:* Tran HV

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# U nang buồng trứng dưới biểu hiện báng bụng lượng nhiều: Báo cáo ca lâm sàng tại bệnh viện Bình Dân

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## TÓM TẮT

**Tổng quan:** U nang ổ bụng cực kỳ phổ biến và hiện nay chúng được chẩn đoán thường xuyên hơn và sớm hơn do sự có sẵn của các phương thức chẩn đoán hình ảnh hiện đại. U nang buồng trứng khổng lồ là nang chứa đầy chất lỏng có kích thước hơn 10 cm được phát triển ở tuyến sinh dục nữ. U nang buồng trứng khổng lồ ngày nay rất hiếm nhờ chẩn đoán sớm và quản lý thích hợp với ứng dụng công nghệ chẩn đoán mới. Đôi khi, u nang buồng trứng khổng lồ nhiễm trùng vẫn xảy ra. Bài báo cáo ca lâm sàng này mô tả một u nang buồng trứng khổng lồ có thể chẩn đoán nhầm thành báng bụng ở phụ nữ sau mãn kinh. Các yếu tố liên quan đến việc nhập viện muộn của u nang buồng trứng khổng lồ cũng được ghi nhận. **Ca lâm sàng:** Dữ liệu được thu thập bằng cách xem xét bệnh án, đánh giá lâm sàng và cận lâm sàng, đánh giá thông qua hình ảnh học và bằng nghiên cứu mô bệnh học của mẫu bệnh phẩm đã cắt bỏ. Chúng tôi trình bày một trường hợp lâm sàng của một phụ nữ 62 tuổi nhập khoa cấp cứu của chúng tôi vì đau chướng bụng được chẩn đoán nhầm là báng bụng lượng nhiều. Siêu âm vùng bụng chậu cho thấy một u nang buồng trứng đa ổ khổng lồ bên trái và kết quả tương tự cũng được xác nhận bằng chụp cắt lớp vi tính (CLVT) bụng chậu. Sau đó, bệnh nhân đã được mổ mở cắt buồng trứng trái tại bệnh viện Bình Dân với hậu phẫu không biến chứng. Mô bệnh học của mẫu bệnh phẩm cho thấy u nang tuyến nhầy của buồng trứng. **Kết luận:** U nang buồng trứng khổng lồ có thể biểu hiện dưới dạng báng bụng lượng nhiều, điều này có thể khiến các bác sĩ bối rối trong thực hành lâm sàng. Chúng tôi đưa ra trường hợp này để lưu ý khả năng u nang buồng trứng khổng lồ cần phải loại trừ ở tất cả phụ nữ đến với tình trạng báng bụng lượng nhiều. Siêu âm bụng chậu có thể giúp chẩn đoán trong môi trường có nguồn lực hạn chế. Khi có nghi ngờ về một u nang trong ổ bụng trong các trường hợp báng bụng, nên tránh chọc hút ổ bụng.

**Từ khoá:** U nang buồng trứng khổng lồ, chướng bụng, báng bụng, ca lâm sàng

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