



GIANT MUCINOUS CYSTADENOMA OF OVARY: DIAGNOSTIC CHALLENGES AND SURGICAL MANAGEMENT

Peshattiwar
Aishwarya

Azhar T

Kumar P

Ephraim R

Pandey J K

Pandey Amrita*

*Corresponding Author

KEYWORDS :

INTRODUCTION

Mucinous cystadenomas are benign ovarian neoplasms characterized by cystic lesions filled with mucinous fluid and lined by a single layer of columnar epithelium. Although they account for approximately 10-15% of all benign ovarian tumours, giant mucinous cystadenomas, defined as those exceeding 15 cm in diameter, represent a rare and distinct subset (1). These tumours often present with significant clinical challenges due to their size and potential for causing symptoms such as abdominal pain, distension, and gastrointestinal discomfort (2).

Giant mucinous cystadenomas are typically slow-growing and may remain asymptomatic for extended periods before presenting with significant abdominal symptoms (3). The clinical presentation, diagnosis, and management of these tumours can be complex due to their large size, which may complicate imaging and surgical intervention. Historically, the diagnosis is confirmed through imaging techniques like ultrasound and computed tomography (CT), followed by histopathological examination of resected tissue (4).

The management of giant mucinous cystadenomas usually involves surgical resection, which may range from cystectomy to more extensive procedures depending on the tumour's characteristics and the presence of any potential complications. Given their benign nature, complete surgical resection often results in favourable outcomes, though the risk of recurrence, though low, necessitates ongoing follow-up (5).

Despite their benign histology, the size and presentation of giant mucinous cystadenomas can mimic malignant ovarian tumours, leading to a more invasive surgical approach or a more extensive preoperative diagnostic workup (6). Understanding the nuances of these tumours is crucial for optimizing patient outcomes and tailoring appropriate management strategies.

In this case series conducted at Department of Surgical Oncology, AIIMS Patna, we present four cases of giant mucinous cystadenomas of the ovary, highlighting variations in clinical presentation, diagnostic challenges, and surgical management. This series aims to enhance the understanding of giant mucinous cystadenomas by providing insights into their clinical behaviour and outcomes, which can inform future diagnostic and therapeutic approaches (7).

Case Report 1

A 73-year-old female, was admitted with a 6-day history of abdominal pain and distension. There were no accompanying symptoms of vomiting, bleeding, breath-

lessness, hemoptysis, hematemesis, jaundice, or headache. There was no history of tuberculosis, diabetes mellitus, hypertension, or thyroid disorders. The patient had a past surgical history of hysterectomy 15 years ago and cholecystectomy 3 years prior. There was no significant family history of cancer or other major illnesses.

On examination, the patient was afebrile with a pulse rate of 80 beats per minute and an ECOG performance status of 1. Physical examination revealed no neck nodes, and systemic evaluations showed normal chest and cardiovascular findings. Abdominal examination revealed a soft abdomen with no organomegaly, but a palpable lump 10 x 15 cm extending to the umbilicus was noted. Rectal examination showed no growth or bleeding, and mucosa was normal. Vaginal examination confirmed the presence of a normal vault with no growth or bleeding.

The patient underwent an exploratory laparotomy, bilateral oophorectomy, and omentectomy. The patient underwent an exploratory laparotomy performed A left ovarian cyst, approximately 15 x 10 cm in diameter, was observed (figure 1). It was a firm bluish-red tumour with a smooth capsule. The uterus and right ovary were normal. No other abnormalities were observed in the abdomen, and the omentum and peritoneum were normal. Left ovarian salphingo oophorectomy was performed. A Complete surgical staging procedure for ovarian cancer was not performed because we suspected that it was a benign ovarian mass. postoperative course was uneventful. On histopathological examination, Multiple sections studied from left ovarian cystectomy specimen shows a multilocular cyst lined by a single layer of tall columnar epithelium. No nuclear stratification/ complex branching/ tufting noted. No area of necrosis/ increased mitosis seen. Features are of mucinous eystadenoma, left ovarian cystectomy specimen. Patient is on regular follow up.

Case Report 2

A 57-year-old postmenopausal female, reported a 3-month history of progressive abdominal pain and distension. There was no history of vomiting, bleeding, breathlessness, hemoptysis, hematemesis, or jaundice. Additionally, there were no symptoms of headache, bony pain, cough, or shortness of breath. The patient had a past surgical history of hysterectomy but no significant family history or other notable medical conditions.

On examination, the patient was afebrile with a pulse rate of 80 beats per minute and an ECOG performance status of 1. Physical examination revealed no neck nodes, and systemic evaluations were within normal limits. Abdominal examination identified a large, palpable mass approximately

15x15 cm in the left iliac region and pelvis. Rectal was within normal limit, vaginal examinations confirmed the presence of a normal vault with no growth or bleeding.

Patient was investigated thoroughly, on ultrasonography of whole Abdomen, Large cyst in the pelvic region with multiple septations and internal echoes, measuring 20 x 13 cm., CECT Abdomen and Pelvis the mass measured 14.4 x 23.7 x 16 cm, with multiple enhancing septa and no solid components or calcifications, arising from the left adnexa. The mass displaced the bowel superiorly. CA 125 was 24 U/mL was within normal range, the patient underwent an exploratory laparotomy, left adnexal cystectomy (figure 2). A Complete surgical staging procedure for ovarian cancer was not performed because we suspected that it was a benign ovarian mass. The postoperative course was uneventful, patient was discharged on POD 5. On histopathological examination, left ovarian cystic mass was diagnosed as mucinous cystadenoma. Patient is on regular follow up.

Case Report 3

A 47-year-old female, sought medical attention due to a lump in the lower abdomen persisting for 2 months. The patient did not report any symptoms of per rectal bleeding, per vaginal bleeding or discharge, urinary complaints, abdominal pain, vomiting, bleeding, breathlessness, hemoptysis, shortness of breath, hematemesis, slurry speech, jaundice, headache, or bony pain. Her past medical history was notable for a bilateral tubal ligation performed in 12 years back, and she was postmenopausal. She had no significant family history of gynaecological malignancies or other major illnesses.

On physical examination, the patient was afebrile with a pulse rate of 80 beats per minute and an ECOG performance status of 1. There were no neck nodes or significant findings in the chest and cardiovascular examinations. Abdominal examination revealed a soft, well-defined, palpable mass extending from the lower abdomen to the umbilicus. Patient was thoroughly investigated ultrasonography Whole Abdomen described a Large lesion of 22 x 10 x 17 cm extending from the pelvis to the epigastric region with bilateral ovaries not distinctly visible. CECT Abdomen and Pelvis was suggestive of a large lobulated cystic mass measuring 14.4 x 23.7 x 16 cm with no enhancing soft tissue nodules or calcific foci. CA-125 was 23 IU/mL which was within normal limits.

The patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH + BSO) (figure 3). A Complete surgical staging procedure for ovarian cancer was not performed because we suspected that it was a benign ovarian mass. The postoperative course was uneventful and was discharged in a stable condition on POD 4, with instructions for follow-up visits for ongoing evaluation and management. On histopathological examination, left ovarian cystic mass, features were suggestive of mucinous cystadenoma. Patient is on regular follow up.

Case Report 4

A 33-year-old female, presented to the Surgical Oncology department with a six-month history of pain in the right iliac fossa. The patient, had no significant past medical or family history, and was otherwise well with no additional symptoms such as vomiting, bleeding, or jaundice. On physical examination, On examination, the patient was afebrile, was vitally stable and an ECOG performance status of 1. Physical examination revealed no neck nodes, and systemic evaluations showed normal chest and cardiovascular findings. Abdominal examination revealed a soft abdomen with no organomegaly, but a palpable lump 10 x 10 cm extending to the umbilicus was noted. Rectal examination and vaginal examination showed no growth or bleeding, and mucosa was normal.

Patient was thoroughly investigated, MRI of the abdomen on revealed a well-defined, thin-walled, multiloculated cystic mass in the right ovary, measuring 8.5 x 7.6 cm, accompanied by multiple theca lutein cysts. An CECT Thorax and abdomen conducted on, showed a cystic mass arising from right ovary of size 8.2 x 9.3 x 7.6 cm, with no evidence of ascites, liver metastasis, or peritoneal disease, confirming localized findings. CA 125 was 32 IU/ml, which was within normal limits.

The patient underwent a right salpingo-oophorectomy and a left cystectomy. The operative findings included an 10 x 10 cm cyst in the right adnexa and a 1.5 x 1.5 cm cyst in the left ovary (figure 4). The surgery was focussed on the removal of the right ovarian cyst while preserving left ovarian function, there were no signs of ascites, liver metastasis, or peritoneal disease were observed.

The patient's postoperative recovery was uneventful. The patient was discharged on POD 5, with instructions of regular follow up. On histopathological examination, Right ovarian cystic mass was diagnosed as mucinous cystadenoma. Patient is on regular follow up.

DISCUSSION

This case series presents four cases of mucinous cystadenomas of the ovary, each demonstrating unique clinical features and management strategies. Mucinous cystadenomas are benign ovarian tumours known for their significant growth potential and distinctive histological features.

The clinical presentation of mucinous cystadenomas can vary widely. In our series, all patients presented with abdominal pain and distension, but the duration and severity of symptoms differed. For instance, Case 1 and Case 2 presented with abdominal distension and pain over six days and three months, respectively, while Case 3 reported symptoms for two months and Case 4 for six months. These variations are consistent with findings from the literature, which show that the symptom duration can range from weeks to months, depending on the tumour's growth rate and size (2). Patients with giant mucinous cystadenomas often present with abdominal distension, pain, and discomfort due to the mass effect of the tumour. In our series, symptoms varied from mild abdominal discomfort to severe pain and abdominal bloating, which is consistent with findings from previous studies (7). Notably, such large masses can cause significant physical and psychological distress, affecting the patient's quality of life.

Tumour size ranged from 10x10 cm to 22x10 cm, illustrating the variability of mucinous cystadenomas. Case 3 had the largest tumour at 22x10x17 cm, compared to the smaller masses in Cases 1 and 4, which were 10x15 cm and 10x10 cm, respectively. This size variability aligns with reported studies where mucinous cystadenomas can reach up to 30 cm in diameter (1). Larger tumours are more likely to present with significant abdominal distension and discomfort, as seen in Case 2 and Case 3.

Histological examination confirmed mucinous cystadenoma in all cases, characterized by multilocular cysts lined by a single layer of tall columnar epithelium without complex features such as nuclear stratification or necrosis. This diagnosis is consistent with the classic histopathological description of mucinous cystadenomas, which are characterized by their mucin-secreting epithelium and lack of malignant features (8). In Case 4, multiple theca lutein cysts were identified in addition to the mucinous cystadenoma, a finding that reflects the hormonal influence on tumour growth but does not alter the benign nature of the primary tumour (7). Tumours of the ovary presenting with diameters greater than 10 cm are referred to as giant ovarian cysts (9).

Mucinous cystadenomas are among the largest benign ovarian tumours, with sizes exceeding 10 cm considered as "giant" [1]. While mucinous cystadenomas are relatively uncommon, accounting for 15-20% of all benign ovarian tumours, giant variants are exceedingly rare, presenting unique clinical and surgical challenges [10]

Imaging studies played a crucial role in the preoperative evaluation. Ultrasound and CT imaging revealed cystic masses with varying sizes and internal characteristics, helping to guide surgical planning. Notably, CA-125 levels were within normal limits in all cases, which aligns with the understanding that elevated CA-125 levels are not always indicative of malignancy in mucinous cystadenomas (11). For instance, in Case 2, the large cystic mass with multiple septations was initially evaluated through ultrasound and CT, which are standard modalities for assessing the extent of ovarian masses (12).

Surgical management was a common treatment strategy across all cases, with procedures ranging from unilateral oophorectomy to total abdominal hysterectomy with bilateral salpingo-oophorectomy. In Case 1 and Case 4, the surgeries focused on tumour removal while preserving ovarian function where possible, reflecting a fertility-preserving approach given the benign nature of the tumors (13). In contrast, Case 3 required a total abdominal hysterectomy with bilateral salpingo-oophorectomy due to the large size of the tumour and potential risks associated with its resection.

Postoperative courses were generally uneventful, and all patients were discharged in stable condition with ongoing follow-up. The outcomes underscore the effectiveness of surgical intervention for benign ovarian cysts and highlight the importance of regular follow-up to monitor for recurrence or complications (14).

CONCLUSION

Giant benign ovarian tumours are uncommon tumours , may extend up to xiphi sternum and commonly present with abdominal distension. Large size need not always pose malignant potential. Early diagnosis through imaging techniques like ultrasonography and CECT abdomen and pelvis are essential for management . Surgical management with laparotomy is main modality of management followed up by histopathological assessment .

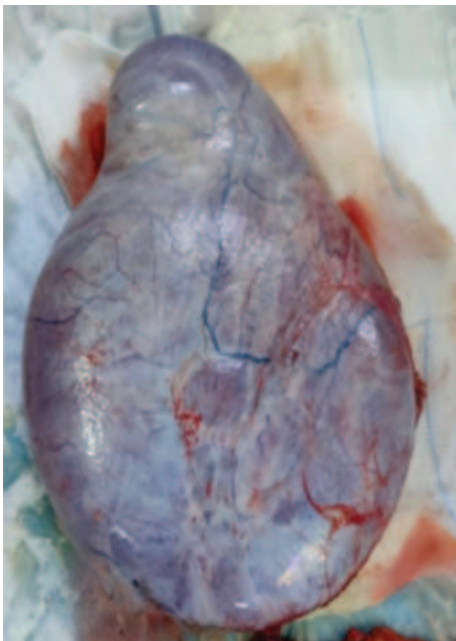


Figure 1

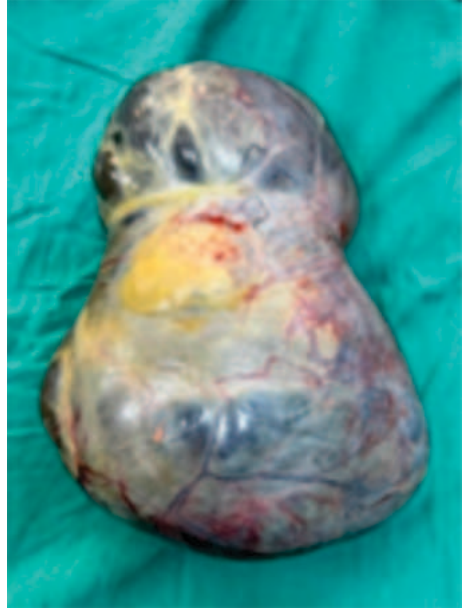


Figure 2



Figure 3



Figure 4

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