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A Case Report on Extremely Huge Ovarian Tumour

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ABSTRACT

Malignant ovarian tumor occur less than benign tumor or cyst as 20% of all ovarian tumors are pathologically malignant. The benign tumors are differentiated from malignant ovarian tumors based on the presenting features or symptoms and examination findings. The size of the mass is independent from the nature of the cyst, however, advanced age, positive familial traits, fast rate of growth, associated constitutional symptoms and gastrointestinal symptoms will indicate malignancy. On examination, signs of cachexia, supraclavicular lymph node enlargement and remarkable ascites are favorable to malignant nature of the mass. Relevant investigations like tumor markers and ultrasound are informative too. The serum CA 125 level is not specific as it only increases in 50% of malignant tumors. The biggest ovarian tumor in literature was 169 kg; our mass was not as big as such. In this case report, we would like to share our experience in the management of big mass within our limited health setting. At the same time, we hope this will encourage those who are on the same boat like us to try their best with available and accessible resources to achieve the best outcome.

Keywords: Huge ovarian tumor, CA 125, Ultrasound, IOTA

INTRODUCTION

It is a relief that malignant ovarian tumor is less common than benign ovarian tumor or cyst as in truth; only 20% of all ovarian neoplasms are pathologically malignant [1].

According to its embryological origin, the ovarian tumors are classified by histopathological types into epithelial tumors, sex-cord stromal tumors and germ cell tumors. Clinically it is divided into solid and cystic tumors. The benign tumors are differentiated from malignant ovarian tumors based on the presenting features or symptoms and examination findings. The size of the mass is independent from the nature of the cyst, however, advanced age, positive familial traits, fast rate of growth, associated constitutional symptoms and gastrointestinal symptoms will point to malignancy. On examination, signs of cachexia, supraclavicular lymph node enlargement and remarkable ascites are favorable to malignant nature of the mass. Relevant investigations like tumor markers and ultrasound are informative too. The distinguished features for malignancy in ultrasound are bilateral ovarian involvement, solid and cystic nature of the mass, papillary surface excrescences, areas of necrosis with internal papillations and presence of ascites.

Tumor markers especially CA 125 plays an important role in determining the benign cyst from malignant tumor. The serum CA 125 level appears to be elevated in 50% of stage I epithelial tumors especially serous cystadenoma. In a study

by Berek and Bast [2], with the threshold of 35 IU/L, the sensitivity and specificity showed 78% and 76%, respectively. However, with the serial measurement, the sensitivity goes up to 83% and 99.7% of specificity. It is a non-specific tumor marker as the elevation in serum can occur in other malignancies and benign and physiological states including pregnancy, endometriosis and even menstruation. The use of CA 125 in clinical practice has limited in terms of sensitivity and specificity, but its role in follow-up of ovarian malignancy has already approved.

There were many case reports informing about a variety of big masses as well as on how to obtain the precise diagnosis and management options which even included robotic surgery.

It was a case report from low resource country where the health facilities were limited and here, we would like to

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share the knowledge and experience with which we solve the problem within the allowed capacity of our health setting.

CASE PRESENTATION

DTN, 45 years, P0+0, divorced for 8 years, admitted to the hospital for the complaint of progressive abdominal swelling for 4 months duration. Simultaneously, she experienced discomfort and limitations in her movement as the heavy mass dragged her down. She felt breathlessness during her movement and especially while lying down. It was lucky enough to learn during her clerking, it was not associated with gastrointestinal symptoms, constitutional symptoms and urinary symptoms as well as menstrual symptoms. No relevant family and drug history even for contraceptive pills was noted. It took her four months to come to tertiary center as the place she stayed was very far from our center.

On physical examination, she was average sized in our health standard, not cachexic and fair hydration. Obviously, she cannot sit properly, move freely and lie down comfortably. Noted body weight was 90 kg on admission (Figures 1 and 2).



Figure 1. Before operation (from side).



Figure 2. Before operation (from front).

She was apparently well apart from an extremely huge mass protruding from her abdomen. It revealed no abnormal finding during general and systemic examination. Her vital signs were stable. While performing the abdominal examination, there was a huge mass filling the whole abdomen. The skin over the mass was not thin, but, distended veins could be seen on lateral sides. Umbilicus was flat. The mass itself was felt tense with equivocal fluctuation sign, well-defined margin, smooth surface without tenderness and negative shifting dullness. On percussion, there was dullness over the mass. Speculum examination was performed quickly just to rule out cervical lesions as she did not go for screening for logistic reasons. We did not proceed to vaginal and per rectal examination not to make her discomfort and painful because of internal examination.

Ultrasound from both approaches (abdominal and vaginal) revealed left ovarian cyst, multiloculated with septal thickness of 2.6 mm, No mural nodules, No papillary excrescences. No abnormalities detected in other organs and no ascites. Final impression was left huge ovarian cyst probably benign (Figure 3).



Figure 3. Left huge ovarian cyst probably benign before operation.

Appropriate necessary investigations were proceeded as the patient was about to go for surgery. The electrolyte changes were not remarkable and the serum albumin level had not changed much. Serum CA 125 was not raised as well. The planned operation (total abdominal hysterectomy with left ovariectomy and right salpingo-oophorectomy) was agreed with the patient.

Other investigations like CT scan were not preceded as the CT machine was under technical problem at that time. We requested the Ultrasound KUB just to rule out pressure effects on the kidneys and ureters. Surprisingly, no signs of hydronephrosis or hydroureter were noted.

Necessary bowel preparation with alertness to surgical team was carried out in advance.

The anesthetists tried their best to give general anesthesia to this patient as the big mass disturbing the ventilation and precipitating the hypotension. Therefore, they had to put the patient in left lateral position by using the wedge under the patient's back and started the induction phase. Endotracheal intubation was inserted without difficulty; however, they were pre-cautious enough to closely monitor the patient throughout the procedure to maintain the oxygen saturation and ventilation.

For surgical side, the surgeon started the lower midline incision through skin, subcutaneous layer and rectus sheath carefully to avoid puncturing the cyst wall which was just close enough to the peritoneum. Lower midline incision was chosen because of the huge size and easy accessibility. Furthermore, it was convenient for the surgeon if she would like to extend the incision to achieve more accessibility. Then, the cyst was punctured with small incision and drained the cystic fluid with two suction machines. Cyst size was reduced by aspiration of cystic fluid first and obtained

31/2 buckets of straw colored fluid (1 bucket can fit in 15 L) (Figure 4).



Figure 4. Aspirated straw colored fluid after surgery.

The runners needed to act fast to change the suction bottle one after another to get timely removal of intracystic fluid. Then, the removal of left over cyst wall was performed as it would result in better and easier exposure to precede the procedure of total abdominal hysterectomy and right salpingo-oophorectomy. The other intra-abdominal organs seemed undisturbed due to pressure effects which was very fortunate for the patient.

The drain was inserted for safety purpose although hemostasis was well secured. The redundant abdominal skin with part of subcutaneous fat was trimmed by the surgeon to adjust and maintain the strength of the abdominal muscle. Pressure dressing was applied.

The excised cyst wall, uterus, both tubes and right ovary were sent for histopathology. Cystic fluid was sent for cytology (Figure 5).

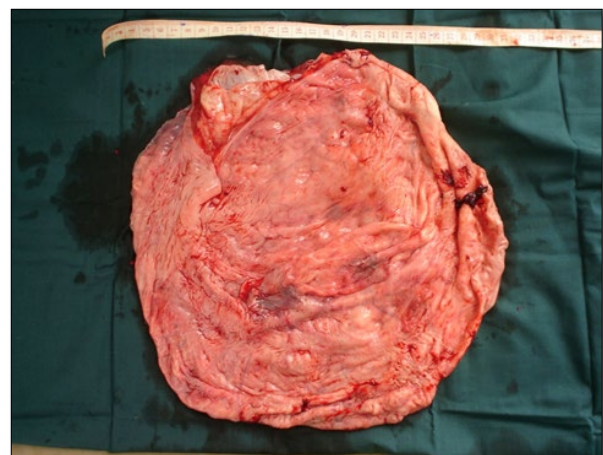


Figure 5. Excised cyst wall.

The results were as follows (Table 1):

Table 1. Shows the appearance and the histopathological report of the patient.

Gross appearance	Histopathological report
Uterus – Myometrium – normal, Endometrium – normal	- Secretory phase endometrium
Cervix – Endocervical polyp (3 × 0.5 cm) with long stalk protruding from right lateral wall of the cervix	- Chronic endocervicitis with adenomatous infected endocervical polyp, cervix
Right ovary – normal	- Benign serous cystadenoma, left ovary
	- Right ovary – no significant pathology
	- Cystic fluid for cytology- No malignant cells seen

Her recovery was uneventful and she was very satisfied with the treatment as she went back to her old self. Her movements were lighter and without limitations anymore. She was discharged to her rural place after one week.

Her weight upon discharge was 47.8 kg. Therefore, her cyst assumed to be 42.2 kg which is close to her body weight (Figure 6).



Figure 6. After operation.

DISCUSSION

This case was the first reported huge ovarian cyst in our hospital setting. As a tertiary center in our country, it achieved its own popularity for different gynecological operations on various kinds of the patients. However, it was the first time in its history for operation on a huge ovarian mass.

Although the ultrasound revealed probably benign cyst, the possibility of malignancy was concerned until the histopathological result cleared its doubt. During our literature search, we found out the biggest mass in the world was 169 kg [3] and in the past, the surgeon never decided to remove the cyst and the contents as a whole at a single operation [4]. The treatment reported that the patient is died of infection due to repeated tapping or exhausted from this process [5]. In one case report from BJOG [5], it mentioned that the abdominal wall was left intact and that there was no mention of problems with visceroptosis by Lynch and Maxwell [3].

However, in our case, the surgeon is confident to proceed to excise the redundant portion of abdominal skin as it will aid in strengthening the abdominal wall and better cosmetic effects. It is proved that her decision was correct as there were no postoperative complications and wound was well-healed later. It may be due to the improvement in the surgical technique with broad- spectrum antibiotics. Those who did not proceed the excision of the redundant abdominal wall, they applied the abdominal pressure dressing in the form of a pillow [5] which we did not follow, but, we reinforced the wound with pressure dressing which we kept for 2 days. Most of the literature mentioned that giant ovarian tumors are often benign mucinous cystadenomas. However, in our case, the giant tumor was noted multiloculated in the ultrasound and indicated the possibility of mucinous type. Again, the histopathology result was reported as serous cystadenoma which did not support the literature. It proved the fact that serous cystadenoma is the commonest counterpart in the benign ovarian tumors.

In the literature search, we found out that ultrasound is the first-line imaging investigation for suspected adnexal masses helping in detection and characterization of ovarian tumors. Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) are currently accepted as well-known technical advances to evaluate ovarian tumors. As a low resource country, MRI is not an easily accessible investigation in our health setting. Therefore, ultrasound is basically the most important and most reliable diagnostic measure here. It is reinforced with Doppler ultrasound in some cases.

Generally, we follow the IOTA [6] (International Ovarian Tumor Analysis) simple rule to discriminate the benign from malignant tumors (Table 2).

Table 2. Underlying principle for the M rule or B rule.

M Rules	B Rules
- Irregular solid tumour (M1) - Ascites (M2) - At least four papillary structures (M3) - Irregular multilocular solid tumour with a largest diameter of at least 100 mm (M4) - Very high colour content on colour Doppler examination (M5)	- Unilocular cyst (B1) - Presence of solid components for which the largest solid component is <7 mm in largest diameter (B2) - Acoustic shadows (B3) - Smooth multilocular tumour (B4) - No detectable blood flow on Doppler examination (B5)

Final impression from this simple rule are shown in **Table 3**.

Table 3. Final impression rules.

Rule 1	If one or more M features were present in the absence of a B feature
Rule 2	If one or more B features were present in the absence of an M feature, we classified the mass as benign
Rule 3	If none of the features was present, the simple rules were inconclusive

As a matter of fact, we noted that the simple rules offer a straightforward approach to correctly characterise about 75% of adnexal masses [6]. In our case report, we applied Rule 2 IOTA by B4 features.

CONCLUSION

In conclusion, the final result of the patient resulted in everyone's delighted because of its favorable outcome. The treatment involved were the clinical competency assisted by ultrasound knowledge with multidisciplinary back up (anesthetist, surgeon). We could not complete the computed Tomography in this case which is a weakness from our side but it would not change our management. As a low-resource country, the health standard in the care of people compared to other high-ranking country is way too much different and it is out of our capability. However, as health personnel, we cannot sit back and watch. Even in dire situation, we have to put our trust in God and confident enough to try our best to achieve the best outcome.

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