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HUGE MATURE CYSTIC OVARIAN TERATOMA; A CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT
Tumours of the ovary are ovarian teratomas in 15 to 20% of cases, of which most are the benign or mature cystic teratoma type. They characteristically commonly appear as unilocular cysts, but in the case we report predominantly multilocular cysts were seen, containing grumous sebaceous material and tufts of hair protruding from the tumour cysts. It is a case of bilateral mature cystic teratoma, that we have described and reported because of the very massive gross abdominal size it had caused, and an initial suspicion of a likely malignancy, but it turned out to be a benign lesion following histopathological examination and diagnosis.

KEYWORDS: Dermoid cyst, Cystic Teratoma, Huge Ovarian tumour.

INTRODUCTION
Teratomas are a subset of germ cell tumours, and they constitute 15 to 20% of all ovarian neoplasms.[1,2] Whilst most of them are of the benign cystic teratoma type, three main categories are recognized as: 1, mature (benign) 2, immature (malignant) and 3, the monodermal (specialized) teratomas.[1] The benign ones are mostly cystic, and they are often known as dermoid cysts because they are almost always composed of cystic spaces layered by skin-like tissue with associated adnexal structures such as hair follicles and sebaceous glands. In addition to abdominal distension (or mass), other symptoms that have been reported for ovarian teratomas include, anorexia, nausea, vomiting, generalized abdominal pain, constipation and even dysuria.[3,4,5] They exhibit a significant semblance to germ cell tumours (teratomas) in the testis, and arise in a similar manner to their counterparts in the male reproductive anatomy. This case had drawn our attention because of the very huge gross size of the abdomen, attendant functional impairment and initial impression of a possible malignant disease. It however turned out to be benign, and we entertained the need to share it with the general community of healthcare providers.

CASE REPORT
A 47 year-old married woman who is P^{4+2} (4 alive) and whose last childbirth was 18 years ago was referred from a peripheral hospital on account of a progressive gross abdominal distension of approximately 2 years duration. There was associated pain at the onset, but in the current presentation no more pain was experienced, neither were vomiting, diarrhea nor constipation. The patient reported having adequate appetite, but does not eat as much as a result of early satiety. Hence there is some weight loss, but no history of night sweats. She had been on the highly active anti-retroviral therapy (HAART), her menstrual flow had ceased since 2018, but she had no remarkable history of dysuria, vaginal discharge, bleeding or pruritus vulvae. Review of other systems showed no remarkable findings.

On examination she appeared chronically ill, mildly pale, anicteric, afebrile to touch, not dehydrated, and neither was there pedal oedema. Her pulse rate was 100 beats per minute, regular and of full volume, while the blood pressure was 150/100 mmHg and she weighed 57.5 kg. Her abdomen was grossly distended, showing prominent superficial veins, but demonstrated no area of tenderness. There was massive ascites and as a consequence, the abdominal organs were not palpable. The abdominal circumference was 105cm and a symphysiofundal height (SFH) of 58cm was measured. Vaginal examination was deferred.

The findings from investigation revealed the following; A liver span of 12.3cm, and spleen length of 10.9cm on abdomino-pelvic ultrasound scan. Multiple complex and poorly defined masses having both solid and cystic components were picked up in the entire abdomen; there is associated ascites with strands traversing the entire peritoneal cavity. The visceral organs and bowel were compressed and pushed up into or against the thoracic space by these masses. The kidneys, the urinary bladder

and uterus were not visualized as they were obscured by the masses. She was also reactive to the hepatitis B surface antigen test, but not reactive to the hepatitis C virus antigen test. A working diagnosis of huge ovarian mass to query an ovarian cystadenoma and to rule out a malignant tumour was made by the attending clinicians, and an exploratory laparotomy was indicated on account of this. As part of the preoperative work up, a packed cell volume (PCV) of 36% was obtained, and she had a total of seven units of fresh whole blood transfused.

Intra-operative findings were of a very huge right ovarian mass, that is irregular in shape with solid and cystic components (Figure 1), measuring 20x18x4cm; a small irregular left ovarian mass (that feels solid) measuring 4x3cm was also removed. These cysts mostly contained grumous gelatinous sebaceous material with hairy tufts (see Figure 2). The fallopian tubes, uterus, and peritoneal cavity were grossly healthy in appearance. More definitively, a total abdominal hysterectomy plus bilateral salpingo-ophorectomy (TAH plus BSO) was undertaken, and the entire specimen was sent to the Department of Anatomical pathology, Histopathology laboratory for processing and histological evaluation. A final diagnosis of bilateral mature cystic teratoma (dermoid cyst) was rendered based on the morphologic features seen.

On microscopic histological examination, large cystic cavities are seen lined by an attenuated skin-like epithelium, and containing flakes of keratin; while the surrounding stroma is fibrocollagenous and shows sections of shafts of hair and sebaceous glands (Figure 3).

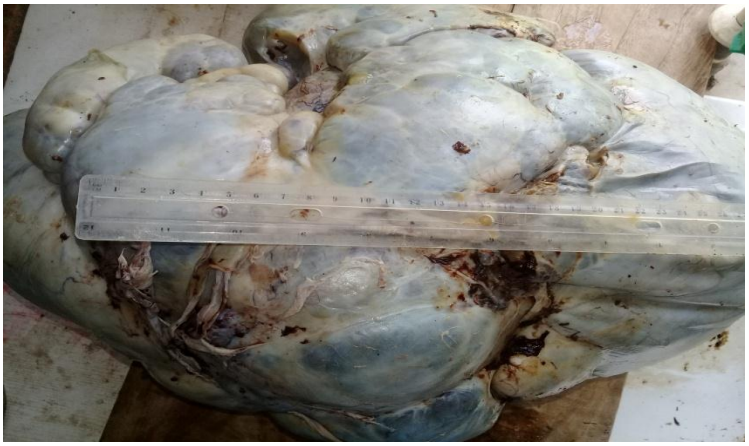

Figure 1: Gross image of a huge multiloculated cystic ovarian mass.

Figure 2: Photograph shows cystic cavities containing gelatinous sebaceous material and hair tufts.

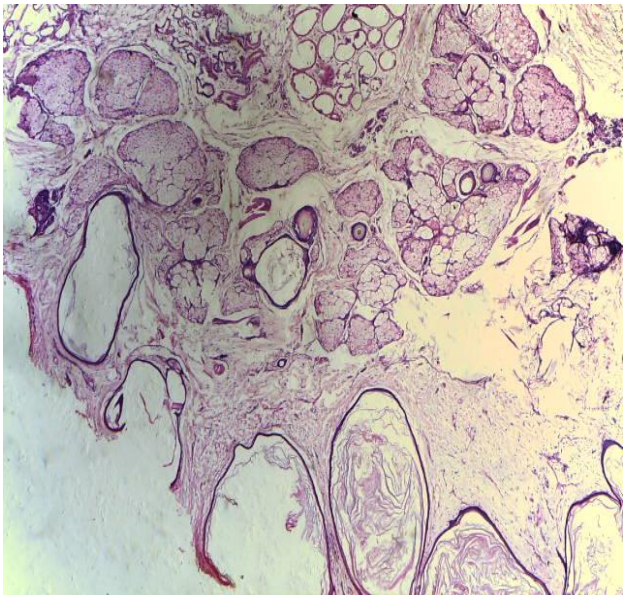

Figure 3: Photomicrograph showing morphological diagnostic features of mature cystic teratoma. x 10 objective (H and E)

DISCUSSION

Ovarian teratomas do account for 15 to 20% of ovarian germ cell tumours,[1,2] and they develop in a similar fashion to their counterparts in the male genital system (testis). The benign or mature cystic types are bilateral in 10 to 15% of cases.[1,3] The case reported here is that of a bilateral mature cystic teratoma with a predominantly multilocular cystic appearance. Severe abdominal pain, associated history of anorexia, nausea, and vomiting are known symptoms in some cases,[2,3] which were however not remarkable in the index case apart from the abdominal pain that was prominent in her presentation. Some authors had reported lower abdominal pain as the commonest symptom, and ovarian torsion as the commonest complication of this condition.[4,5] Severe abdominal pain was clearly elicited in our patient, in association with marked abdominal distension. The vital signs are predictably stable or within the reference limits, and the diagnosis is suggested by imaging techniques like the pelvic ultrasound scan (USS), computerized tomography (CT) scan,[4,5,6,7] or may even be discovered as an incidental finding at routine regular checkups for pregnancy for instance.[3]

A quite rare presentation was reported by Ravikanth[7] as a synchronous or collision tumour in which a huge mucinous cystadenoma coexisted with a mature cystic teratoma in the same ovary. Other workers encountered a cystic teratoma that ruptured into the large bowel[8], while Zhang et al[9] reported a mucinous tumour in a sacrococcygeal cystic teratoma. Surgery is usually a sufficient treatment option and curative in managing this condition. Histopathological examination is quite diagnostic and characteristic, and shows the presence in this neoplasm, of a mesenchymal matrix with cartilage and hair tufts surrounding or adjacent the cystic cavities, which are lined by attenuated layers of skin-like tissue.[8,9] Tissue sections of the tumour we report in this case (see Figure 3 above) show large cystic cavities containing laminated flakes of keratin and walled by an attenuated stratified squamous epithelium; while the surrounding matrix contains cut sections of hair shafts and a duct lined by columnar epithelial cells. Hence the term dermoid cyst is used as we have applied to describe this neoplasm in the index patient. The presence of differentiated or mature tissue elements in this lesion from more than one germ layer is quite characteristic of its definition and benign nature, and that confers an excellent prognosis.[1,11] This is the classical definition, and it actually covers the diagnostic criteria for mature or benign teratomas.

Some workers in Ghana however, reported three cases of immature cystic teratomas, which were initially diagnosed clinically as mature cystic teratomas, but on histological evaluation immature embryonal neuroepithelial elements were found, which confirmed the diagnosis.[10] This variant affects much younger patients, being a rare malignant tumour, usually in their first two decades of life[1,10,11], rather in contrast to the patient we report who is in her fifth decade. The case reported by Douay-Hauser et al[2] however, was the development of an immature teratoma consequent upon hormonal stimulation of the ovaries. This reflects the potential iatrogenic effect of using hormonal stimulation of the ovaries as an intervention or assisted reproductive technology in the management of infertility. The prognosis is poorer for higher-grade immature teratomas. Mature solid teratoma also has peak incidence in the first and second decades, but is uncommon and usually asymptomatic.[11] Some other quite rarer presentations include mature retroperitoneal teratoma in a male subject,[13,19] and in other extragonadal locations like the thyroid gland, the lung, and liver.[12,14,15] The most common sites for primary mature teratomas are the gonads (ovaries and testes), and then the extragonadal

locations follow such as, the cervical, intracranial, mediastinal, retroperitoneal and sacrococcygeal regions. Malignant transformation is a possibility, though rare and that is why follow up monitoring is recommended for mature cystic teratoma patients.[11,18] The patient we have presented in this report had complete surgical resection in the form of a total abdominal hysterectomy and bilateral salpingoophorectomy, and had remained symptom free with no recurrence of the disease after a six month follow up so far.

In conclusion, teratomas are a rare entity which may be asymptomatic in a good number of cases, unless severe pain and obstructive features arise from grossly giant tumours. The histological or pathomorphological appearance is quite characteristic. Total surgical resection is usually curative and follow up monitoring has been advised or recommended owing to a possibility of malignant transformation.

CONSENT: Informed consent was sought and obtained from the patient in order to forward this report for publication.

CONFLICT OF INTEREST

No conflict of interest is declared by the authors.

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