Leiomyoma of the greater omentum presenting with massive ascites

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A B S T R A C T

INTRODUCTION: Primary tumours of the omentum are quite uncommon, although it is a common site for for secondaries.
PRESENTATION OF CASE: We report a case of leiomyoma of the greater omentum in a 31-year-old nulliparous woman who presented with a 2-year history of progressive abdominal distension with examination findings of massive ascites and a mobile ill-defined centrally located intra-abdominal mass. The preoperative diagnosis was equivocal. At surgery a pedunculated greater omental mass, which was histologically reported as a leiomyoma, was seen. She had an uneventful post-operative recovery. She has been followed up for twelve months with no evidence of recurrence or residual disease.
DISCUSSION: Extra-uterine leiomyoma is rare. It is even rarer for it to originate from the omentum. Pre-operative diagnosis is challenging. To the best of our knowledge this is the first reported case of leiomyoma of the omentum in Nigeria.
CONCLUSION: The uncommon association of ascites with this tumour deserves further scrutiny. The patient is still being followed-up.

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1. Introduction

The omentum is composed principally of fat, but also contains blood vessels and lymphatics. The omentum is lined by mesothelial cells and within its abundant stroma are lipocytes, fibroblasts, lymphoreticular bodies and pericytes. Primary tumours of the omentum are by far less common than secondaries. A significant proportion of these primary tumours are of smooth muscle origin probably from the omental vessel walls. The origin of intra-abdominal extra-uterine leiomyoma could also be putatively from Mullerian cell nests.

2. Case report

A 31-year-old nulliparous woman presented to our hospital with a 2-year history of progressive abdominal distention and weight loss. There was no history of change in bowel habit, cough, fever nor night sweats. She had been receiving treatment from traditional medicine healers. She has been married for 12 years.

Physical examination showed an emaciated young woman with marked uniform abdominal distention. There was massive ascites which precluded proper characterization of a ballottable lobulated mass noticed in the peri-umbilical region. There was also a reducible umbilical hernia. Her blood pressure was 130/80 mmHg and pulse rate was 72 beats/min.

The blood count showed a haemoglobin of 12.8 g/dl and white blood count of 4.6 × 109/l. Other laboratory test results include the following: serum urea 36.3 mg/dl, creatinine 0.9 mg/dl, albumin 3.4 g/dl, protein 6.5 g/dl, AST 19 IU/l, alkaline phosphatase 88 IU/l.

An abdominopelvic ultrasound scan revealed a central abdominal mass with cystic and solid components whose attachments could not be defined; but the ovaries, uterus, liver and spleen were found to be normal. CT scan was not done. Chest X-ray showed no abnormality.

She underwent exploratory laparotomy wherein 9 litres of straw-coloured ascitic fluid was drained. A bulky mass measuring 24 × 18 × 13 cm was found attached to the greater omentum by a narrow pedicle [Fig. 1]. The liver, uterus and other structures were found to be normal. Resection of the mass and omentum was done. She had an uneventful post-operative recovery and was discharged on the 7th post-operative day.

Microscopic examination of the mass read: “sections of the omental mass show a benign mesenchymal neoplasm composed of proliferating mature smooth muscle cells disposed in whorls and interlacing fascicles. There are multifocal areas of hyaline and cystic degenerations; features are those of a degenerating leiomyoma. Sections of the adjoining omental tissue are normal” [Fig. 2].

Patient has been in good health with no evidence of residual or recurrent disease for over twelve months.

3. Discussion

Omentum is a common site for metastatic tumours. Primary tumours of the omentum on the other hand are quite rare.1 It is
difficult to determine the true incidence of these tumours; information on them is mainly gleaned from case reports. Extra uterine leiomyomas account for less than 10% of all leiomyomas.2

Parasitic leiomyomas, which become adherent to neighbouring tissues and eventually lose their blood supply from uterus is a consideration in this case. However despite the huge size of the tumor, the uterus and perineal structures look pristine in our index patient.3,4

The gross ascites and weight loss in the patient lead us to a suspicion of a malignant intra-abdominal neoplasm probably arising from the pelvis. The pathogenesis of the ascites seen in this patient could be multi-factorial. Malnutrition could be contributory especially due to the huge size of the tumour. However more importantly the ascites could be akin to what obtains in pseudo-Meig’s syndrome of which uterine leiomyoma is the most common cause.5 Here, the ascites is thought to result from the mechanical irritation of the peritoneal surface. In addition, the tenuous blood supply to the large tumour will facilitate interstitial oedema and consequent fluid transudation.6 The ascites in a benign condition such as our patient’s, is largely dependent on tumour size rather than histological propensity; and expectedly it resolved on excision of the tumour.

The ultrasound scan ruled out a pelvic attachment for the tumour but could not determine its origin. The typical whorled, hyperechoic appearance of leiomyoma was not however evident on the ultrasound scan. Leiomyomas in unusual locations are indeed challenging to the radiologists. We were handicapped however by the difficulty in accessing other advanced imaging modalities for the patient in our institution. Irrespective of the anatomical location, magnetic resonance imaging is most sensitive in the preoperative diagnosis of leiomyoma by showing the low intensity similar to that of smooth muscle on T2 weighted images.2,4

Leiomyoma, leiomyosarcoma and leiomyoblastoma constitute the main bulk of omental tumours.

The inexperienced pathologists can have difficulty in differentiating them.7

Furthermore leiomyoma is believed to have the capacity to transform to leiomyosarcoma or leiomyoblastoma and when the size exceeds 5 cm the leiomyoma should be considered as having a malignant potential.8

In our patient, despite the huge size of the tumor, there was no attachment of the mass to any other organ including the liver and uterus, and there were no peritoneal seedlings. The patient has remained healthy and free of any detectable residual or recurrent tumor twelve months after the surgery.

To our knowledge this is the first reported case of leiomyoma of the greater omentum that is associated with gross ascites. We believe that this patient needs a close clinical follow-up, which we are doing, in order to determine the future behaviour of the neoplasm.

Conflict of interest statement

None.

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None.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Ekwunife CN, Chukwulebe AE and Nwabueze CF operated and managed the patient. Ukah CO conducted the histopathologic examination of the specimen. All the above authors participated actively in literature search, drafting and review of the article as well as approval of its final version.

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