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## Endometriosis masking as an intra abdominal malignancy. A case report and literature review

**Peer review status:**

Yes

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There were no competing interests.

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# Endometriosis masking as an intra abdominal malignancy. A case report and literature review

**Author(s):** Uzoma OI, Anolue F

## Abstract

A patient with atypical symptomatology due to endometriosis, clinical features were strongly suggestive of an intraabdominal malignancy. The patient had right sided haemorrhagic pleural effusion, ascitis and a serum CA-125 level of 62 U/ml

## Introduction

The presence of ascitis and pleural effusion in cases of endometriosis are rare but have been documented.<sup>1,2</sup> These features may indeed present the attending physician/surgeon with a diagnostic dilemma.<sup>1</sup> Most cases of pleural effusion traceable to endometriosis are usually located on the right side with symptoms like breathlessness being common place.<sup>3,4</sup> A clinical picture with concurrent ascitis has also been mentioned in the literature.<sup>3-5</sup> We herein report a case of endometriosis with right sided pleural effusion as well as ascitis, there were diagnostic difficulties which were ultimately resolved after histopathological analysis of omental tissue obtained at laparotomy.

## Case report

A 31 year old nulliparous African female presented with a 7 month history of abdominal swelling, progressive shortness of breath, easy satiety, and weight loss.

There had been no preceeding fever, cough, haemoptysis or night sweats. She had dysmenorrhoea since attaining menarche at age 15, for this she took analgesics regularly. Her cycle length was 28 days and regular, while her menstrual flow lasted for 4 days and was normal. Five months prior to presentation she had abdominal paracentesis (on account of ascitis) done at a different tertiary health care centre, it however recurred. On presentation, physical examination revealed; a pulse rate of 54 beats per minute, blood pressure of 110/80 mmHg, respiratory rate of 19 cycles/minute, temperature of 36.9°C and a weight of 50.5kg. Her abdomen was moderately distended, pelvic examination was unremarkable.

Diminished air entry and stony dull percussion over the right lung were noted. Chest radiograph showed right pleural effusion. Preliminary ultrasonography showed free intraperitoneal fluid, right pleural effusion and a right ovarian mass measuring 30mm×35mm. Computed Tomography (CT)scan showed moderate ascitis and massive right sided pleural effusion with shift of the mediastinum to the left. Her laboratory investigations included complete blood count with a packed cell volume of 26%, serum electrolytes, urea, creatinine, and liver function tests were all within normal limits. Hepatitis B, HIV and Hepatitis C serology were all negative. Erythrocyte Sedimentation Rate (ESR) was significantly elevated. Barium enema was essentially normal. Alphafetoprotein (AFP) and human chorionic gonadotropin (hCG) values were within normal limits (1.3mu/ml and 3.6mu/ml respectively). Carcinoma embryonic antigen (CEA) was within normal limits. CA-125 level was 62 U/ml. Mantoux test was negative.

Thoracocentesis and abdominal paracentesis revealed haemorrhagic pleural effusion as well as haemorrhagic ascitis. Chest tube drainage yielded a total of 9.1litres of fluid.

No malignant cells were seen on cytology of pleural and peritoneal fluids. Ziehl-Neelsen (ZN) stain for Mycobacteria was negative.

An exploratory laparotomy with right oophorectomy, omental biopsy and biopsy of the mesenteric lymph nodes was done for the patient with the following intraoperative findings: haemorrhagic ascitic fluid, enlarged right ovary (8cm×6cm) that was partly cystic and partly solid, the posterior uterine wall had adherent loops of bowel and no obvious neoplastic lesion in the pelvic/abdominal cavities. On the 3rd day post laparotomy, extubation of the chest tube and pleurodesis were done.

Histopathology of the omental tissue showed islands of endometrial tissue and foci of fibrosis with pools of old haemorrhages. A diagnosis of endometriosis was thus made.

She was placed initially on a threemonth course of combined oral contraceptives pills on account of her diagnosis and menstrual irregularities post operatively then she was switched to a Gonadotropin releasing hormone agonist (GnRHa) - goserelin 3.6mg monthly.

She had 3 doses of goserelin.

Twelve months post surgery, physical examination showed the patient was stable with no signs of either pleural effusion nor ascitis. Abdominal ultrasound showed no evidence of intraperitoneal fluid.

## Discussion

Endometriosis is a common gynaecological problem in which endometrial tissue exists in sites outside the uterine cavity (excluding adenomyosis).<sup>5</sup>

Intraabdominal endometriosis presenting with ascitis and right pleural effusion is rare and was first reported by Brews in 1954.<sup>1, 6</sup> It typically presents at age 32 years with 70% of affected women being Black, also being more common in nulliparous females.<sup>7</sup> The case presented fits well with this description in terms of age, race and parity.

Pleural effusion that is blood stained or haemorrhagic tends to be associated with malignancies and tuberculosis.<sup>8</sup> It may also be seen in benign conditions like endometriosis.<sup>4, 8</sup> In our patient efforts were made to rule out the possibilities of malignancy and pulmonary tuberculosis using cytology studies, Mantoux test and ZN stain. Elevated CA-125 levels have been documented in other reports of endometriosis with right pleural effusion and ascitis.<sup>7</sup> This was the case with our patient.

A diagnosis of endometriotic ascitis and pleural effusion is often made based on patient's history and/or clinical findings in conjunction with the individuals response to treatment.<sup>7</sup> In a case reported in 1996 by Flanagan and Barnes, there was pleural effusion and ascitis due to intraabdominal endometriosis, they suggested that the pleural effusion was the result of communication between pleural and peritoneal cavities.<sup>7</sup> Mittal et al, demonstrated peritoneopleural communications by scintigraphic studies of twelve patients with cirrhotic ascitis and pleural effusion. In another report three diaphragmatic perforations were seen at thoracoscopy.<sup>9</sup>

In the literature pleural effusion mostly occurs on the right, however bilateral effusion was reported by Yu and Grimes.<sup>10</sup> Our patient had right pleural effusion.

The average amount of ascitis is 3.3 litres with volumes of upto 10 litres being documented.<sup>3, 11</sup> Ascitis may result from rupture of endometriosis or chocolate cysts leading to peritoneal irritation.<sup>7, 11</sup>

The definitive treatment for ascitis and bloody pleural effusion due to intraabdominal endometriosis is total abdominal hysterectomy with bilateral salpingo -

oophorectomy.<sup>7, 12</sup> Hormonal therapy, including progestogens, danazol and Gonadotropin releasing hormone agonists (GnRHa) are of use. We initially used hormones (combined estrogen - progesterone) then switched to GnRHa (goserelin). The patient received three doses of goserelin and voluntarily chose to discontinue the medication. Twelve months after surgery she was doing very well with no relapse.

## Conclusion

For every woman of reproductive age who is menstruating, endometriosis should be considered as a differential diagnosis once bloody pleural effusion and ascitis exist.

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## Contributions of Authors

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Dr. Onyeka Iheako Uzoma, helped draft and format the template for the case report, he also did extensive review of the literature as well wrote the preliminary case report which was discussed and ideas were shared with Dr. Anolue FC before the final article was submitted.

Dr. Fredrick Chiedozi Anolue was the head of the team that managed the case. He was instrumental to the conceptualisation of the case report, and played a ,hands on, oversight role at all the various stages of its writing including contributing to the literature reveiw.

## Reviews

### Review 1

**Review Title:** I would change to title to Endometriosis masking as an intra abdominal malignancy with accompanying pleural effusion. A case report and literature review

Posted by Dr. Everett F Magann on 19 Feb 2015 10:13:15 PM GMT

1	Is the subject of the article within the scope of the subject category?	
2	Are the interpretations / conclusions sound and justified by the data?	
3	Is this a new and original contribution?	
4	Does this paper exemplify an awareness of other research on the topic?	
5	Are structure and length satisfactory?	
6	Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?	
7	Can you suggest any reductions in the paper, or deletions of parts?	
8	Is the quality of the diction satisfactory?	
9	Are the illustrations and tables necessary and acceptable?	
10	Are the references adequate and are they all necessary?	
11	Are the keywords and abstract or summary informative?	

**Rating:** 8

**Comment:**

See above for what would improve this paper

**Invited by the author to make a review on this article?** : Yes

**Experience and credentials in the specific area of science:**

MFM Division and Fellowship Director

**Publications in the same or a related area of science:** No

**How to cite:** Magann E.I would change to title to Endometriosis masking as an intra abdominal malignancy with accompanying pleural effusion. A case report and literature review[Review of the article 'Endometriosis masking as an intra abdominal malignancy. A case report and literature review ' by Uzoma O].WebmedCentral Obstetrics And Gynaecology 1970;6(2):WMCRW003183

## Review 2

### Review Title: Revision manuscript Endometriosis masking as an intra abdominal malignancy. A case report and literature review

Posted by Dr. Pietro Scicchitano on 19 Jan 2015 09:45:00 PM GMT

1	Is the subject of the article within the scope of the subject category?	
2	Are the interpretations / conclusions sound and justified by the data?	
3	Is this a new and original contribution?	
4	Does this paper exemplify an awareness of other research on the topic?	
5	Are structure and length satisfactory?	
6	Can you suggest brief additions or amendments or an introductory statement that will increase the value of this paper for an international audience?	
7	Can you suggest any reductions in the paper, or deletions of parts?	
8	Is the quality of the diction satisfactory?	
9	Are the illustrations and tables necessary and acceptable?	
10	Are the references adequate and are they all necessary?	
11	Are the keywords and abstract or summary informative?	

**Rating:** 7

**Comment:**

Dear Editor,

We read through the manuscript and we think this is a good and interesting case report. One question: was the patient suffering from polycystic ovary syndrome? Please discuss such a condition in relation to literature background (Cicccone MM et al. Vasc Health Risk Manag. 2009;5(3):561-6 and Int J Endocrinol Metab. 2012 Fall;10(4):611-8).

**Invited by the author to make a review on this article?** : Yes

**Experience and credentials in the specific area of science:**

I published paper on gynecological disorders

**Publications in the same or a related area of science:** Yes

**References:**

Cicccone MM et al. Vasc Health Risk Manag. 2009;5(3):561-6 Int J Endocrinol Metab. 2012 Fall;10(4):611-8

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