



Case Report

Challenges versus Strategies: A Case Report on Stage 1A Ovarian Cancer with Non-Specific Gastrointestinal Symptoms

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Abstract

Primary mucinous ovarian tumours (MOC) are a rare subgroup of ovarian epithelial tumours. They represent 10-15% of all ovarian tumours and about 10% of all malignant ovarian tumours. They are subdivided according to their malignant potential and clinical behaviour. Benign mucinous tumours tend to affect women in their 20s to 40s, whereas borderline and malignant tumours tend to occur in a slightly older age range (40-50 years) [1]. Although most tumours are stage 1 at diagnosis, 15-20% are advanced stage at diagnosis and increased in tumour size due to vague non-gynaecological complaints and insidious symptoms [2,3]. The high mortality rate of ovarian cancer is often due to its late detection, thus earning itself the term “Silent Killer” [4]. Our case will highlight the challenges in primary health care to diagnose such a serious disease and suggest strategies to clinicians on how to avoid misdiagnosis and provide early detection.

Keywords: Ovarian Cancer; Diagnosis; Vague Symptoms; Misdiagnosis; Primary Health Care.

Introduction

Ovarian cancer remains one of the most lethal gynaecological malignancies despite advances in both surgical and oncological management. This is attributed to multiple factors, including poor identification of risk factors, lack of effective screening strategies, vague symptoms at presentation, and delays in presentation. The presentation of such cancer can be as early as 25 years old if there is a genetic predisposition such as Lynch syndrome. The surveillance team suggests annual education for young women about vague symptoms like pelvic or abdominal pain, bloating, increased abdominal girth, difficulty eating, early satiety, urinary frequency, or urgency [5]. The American College of Obstetrics and Gynaecology (ACOG) states that the risk of ovarian cancer jumps from 2% lifetime to 39-46% if a woman has a BRCA1 mutation and 10-27% if she has a BRCA2 mutation by age 70. This highlights the importance of family history when assessing

such patients and the age of presentation of any cancer linked to Lynch syndrome or BRCA gene.

Primary mucinous ovarian cancer is less likely to spread to lymph nodes or the upper abdomen and is more likely to affect younger women, thus desiring fertility-sparing therapies. The clinical manifestation can be non-specific but mostly presents as large unilateral pelvic masses. The resultant signs and symptoms are often secondary to the large size of the mass and may include pain, abdominal or pelvic fullness, bloating, urinary symptoms, early satiety, or a palpable mass. The clinical signs and symptoms are nonspecific, but large size alone at physical examination is suggestive of a mucinous histologic type [6]. This is important, as metastases to the ovary are more likely to be bilateral and smaller [1]. In general, the cell type (e.g., serous, mucinous) often cannot be determined by the appearance on imaging [7] and requires histology confirmation. These tumours behave in diverse ways and are generally not detected until they become large [2]. Due to its anatomical location, such ovarian tumours may remain unnoticed for a long period of time [2,8]. Common symptoms

include abdominal distension, abdominal and pelvic pain, menstrual disturbance, dyspepsia, and increased urinary frequency [9]. Prognosis of mucinous tumours is highly dependent on the stage and histologic composition. Primary treatment is debulking surgery unless there is extra-ovarian disease [6].

Case Presentation

A 34-year-old woman presented to a primary health centre with abdominal discomfort, mainly bloating. She attributed her symptoms to constipation as she was passing hard stools. She denied any abdominal pain but felt full after eating small meals, although she would regularly have three meals a day. Her periods were regular, and she was not sexually active at the time. She had one son. She had presented with similar symptoms six months prior and was treated for irritable bowel syndrome but reported symptoms being present for nearly two years. Abdominal examination revealed a distended abdomen with a large palpable mass arising from the right lower abdomen. Urgent referral to a suspected cancer pathway was done, and initial CT abdomen revealed a giant intra-abdominal multiloculated mass, likely ovarian cyst neoplasm/peritoneal pseudomyxoma. Liver capsular implant towards the periphery of the right lobe with mild right pleural effusion.

MRI scan was done three weeks later for further evaluation of the tumor and was reported as a giant multiloculated septated cystic mass associated with fallopian tube dilatation of the right side, free ascitic fluid mainly in the arch of Douglas, and also peritoneal nodularity/irregularity. There was no significant soft tissue or nodularity or papillary projections, and the presence of low-risk intensity enhancement curve; however, this multilocular cystic mass denoted an O-RADS 5 lesion (see reference 14 for O-RADS classification). Ultrasound-guided biopsy showed a high probability of a mucinous neoplasm on histopathology. The differential diagnosis in this case, after discussion in MDT, was primary ovarian mucinous neoplasm versus metastatic from the gastrointestinal or pancreaticobiliary tract.

She underwent debulking surgery, laparotomy for total abdominal hysterectomy, bilateral salpingo-oophorectomy, total omentectomy, and biopsies. Histology postoperatively confirmed a mucinous borderline tumour of the right ovary. Three regional lymph nodes were identified, which were all negative for borderline tumour with no distant metastasis involvement. This was identified

as International Federation of Gynaecology and Obstetrics (FIGO) Stage 1A (see Figures 1,2,3). The patient made a good recovery and is being followed up every four months with CA125 blood test and ultrasound for surveillance.

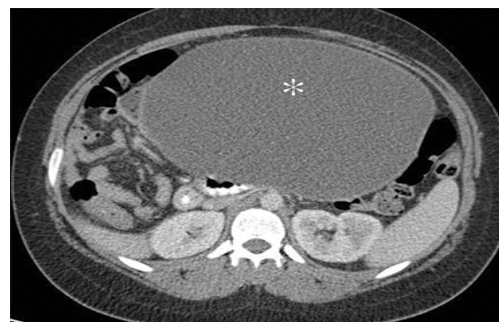


Figure 1: contrast-enhanced CT images showing large cystic lesion (white *).

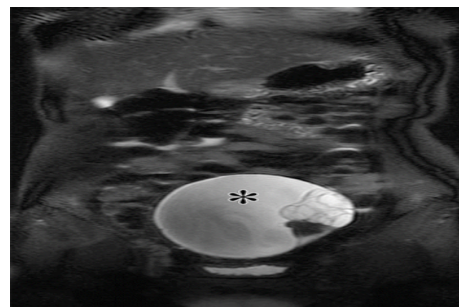


Figure 2: contrast-enhanced CT image showing multiloculated cystic mass (*).

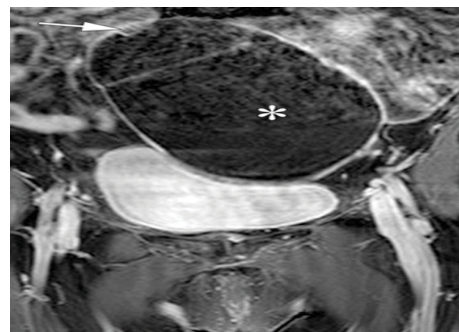


Figure 3: Sagittal CT image showing a cystic mass (*) superior and anterior to the bladder.

	Abdominal bloating	Abdominal pain	Urinary frequency	Loss of appetite	Abdominal distension
Positive predictive value as single symptom	0.3 (0.2 to 0.6)	0.3 (0.2 to 0.3)	0.2 (0.1 to 0.3)	0.6 (0.3 to 1.0)	2.5 (1.2 to 5.9)
Abdominal bloating	2.0	0.8 (0.4 to 2.2)	1.2	3.3	3.0
Abdominal pain	–	0.7 (0.4 to 1.1)	0.4 (0.2 to 0.8)	1.0 (0.4 to 2.3)	3.1
Urinary frequency	–	–	0.2 (0.1 to 0.8)	NC	2.2
Loss of appetite	–	–	–	0.5 (0.2 to 1.4)	>5
Abdominal distension	–	–	–	–	4.3

■ Positive predictive value >1% ■ Positive predictive value >2% ■ Positive predictive value >5%

Positive predictive values (95% confidence intervals) for ovarian cancer for individual risk markers and for pairs of risk markers in combination (against background risk of 0.04%). Confidence intervals not calculated when any value was <5 (invariably this was because too few controls had both features). NC=not calculated, as fewer than five women had the combination

Source:
Hamilton W, Peters TJ, Bankhead C, Sharp D. Risk of ovarian cancer in women with symptoms in primary care: population based case-control study. BMJ 2009. 2009;339:b2998.

Figure 4: One strategy is testing our doctors on the positive predictive value (PPV) for ovarian cancer symptoms.

Discussion

Early diagnosis of ovarian cancer is challenging in primary care, mainly due to the fact that symptoms in early disease are vague and non-specific. Studies have shown that women with ovarian cancer experience more abdominal, gastrointestinal, and constitutional symptoms compared to those with other benign tumours [10]. Delay in presentation is one of the big dilemmas with ovarian cancer and is responsible for the high mortality associated with the disease. Similar delays have been reported in multiple studies [7]. Studies show that as much as 43% of patients present with an ovarian tumour after one year of symptom development. Reasons for delay include non-specific symptoms, inadequate healthcare systems, omission of pelvic examination at presentation, and lack of patient education [11].

The absence of pain and menstrual symptoms, as well as infrequent and vague presentation of symptoms, made this case a diagnostic challenge preventing early diagnosis. The patient had only presented twice in two years, and her symptoms were non-specific and insidious in onset, which is a challenge for the family medicine physician. This case highlighted both the absence of common symptoms and the omission of a bimanual exam on her presentation of gastrointestinal symptoms six months ago. Luckily, our case did not have any extra-ovarian spread of cancer and just needed debunking surgery. Nevertheless, complications from pressure can lead to various issues like bowel obstruction,

and they present to the emergency department to find out about the ovarian mass.

We developed some strategies to avoid misdiagnosis and early detection of such cancer, which will share with our team. One strategy is testing our doctors on the positive predictive value (PPV) for ovarian cancer symptoms. (see Figure 4) [12]. As you can see from the PPV of ovarian cancer, abdominal bloating or abdominal distension have a high PPV with a 95% confidence interval as single symptoms. Combining distension and loss of appetite will further increase the PPV by more than 5% with a 95% confidence interval, which will improve our pick-up rate in early-stage ovarian cancer [12]. Screening for symptoms, age, and family history in any woman presenting with vague gastrointestinal symptoms may raise suspicion of ovarian cancer. Remember, Lynch syndrome can present as early as 25 years old. Always remember there is no age limit to cancer presentation, and the symptoms vary and sometimes are vague. Suspicion and multiple presentations of the patient can indicate the need for further referral and investigation. Offering pelvic ultrasound and blood tests for CA125 will help detect cancer early, despite the limitations of CA125, and ultrasound is more accurate in detecting cancer [13,14].

Conclusions

Ovarian cancer is a devastating diagnosis that can affect women at any age. Early detection and diagnosis are crucial and essential,

which is a huge challenge facing primary health care as gatekeepers to the services and primary health care see the majority of such patients. Adapting a strategy in mind, using available resources such as CA125 blood tests, pelvic ultrasound, or transvaginal ultrasound if possible, will increase the chance of early detection of ovarian cancer. Cancer UK research provided a good tool to help assess the symptoms and can use the positive predictive value (PPV) to assess the impact of symptoms on suggested diagnosis, like in our case of ovarian cancer and abdominal distension/abdominal bloating. Putting a good safety net in place and asking the patient to come within a time frame if there is no response to the treatment provided and considering referral to a specialist might help in early diagnosis. Good education for the team, providing surveys to the team to see their understanding and awareness about the Cancer UK tool and PPV provided, might help improve the pick-up rate. Good education of patients as part of the safety net within the time provided in the consultation can help with early diagnosis.

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