**Case title:** **The Case of Ophelia Smith***

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Case synopsis: A 40 year old woman is referred to her gynecologist for the assessment of a pelvic mass that was picked up on an incidental ultrasound.

Number of pages: 10

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Case objectives: As part of an adult learning experience the learners should identify what they need to know to solve this patient's case. The learning goal of this case is to facilitate the clinical reasoning skills of the learners.

The authors used published objectives from the Association of Professors of Obstetrics & Gynaecology of Canada (APOG), Association of Professors of Gynecology and Obstetrics (APGO) and Council of Residency Education of Obstetrics & Gynecology (CREOG) as guidance for writing these cases.

This case was designed for 2.5 hour small group interactive seminar – the case may be revised as needed into 2 parts to fit a shorter time frame.

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**Box 1**

You are a resident on an elective gynecology rotation with Dr. Wise in Prince George. Mrs. Ophelia Smith is a 40-year-old Irish labour and delivery nurse who is referred to Dr. Wise with an ultrasound showing a pelvic mass. Her doctor ordered the pelvic ultrasound to check on the position of her intrauterine device (IUD) – she was unable to visualize the string when she performed her Pap smear. Dr. Wise's dependable secretary has found the ultrasound results and she brings them to the office. You review the ultrasound results with Dr. Wise.

Ultrasound report from 1 month ago: "a left 7 cm mass, cystic with hyperechoic areas and a single septation, is seen in the pelvis. No free fluid. Normal uterus. IUD in normal position. Neither ovary is well visualized"

Before you go into see Mrs. Smith, Dr. Wise asks you:

- "What is the differential diagnosis of a pelvic mass in this woman?"
- "What information from the history will help you narrow your differential diagnosis?"
- "What ultrasound features are considered suspicious for ovarian cancer?"

1. In an attempt to impress Dr. Wise, address all of her questions.

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**Box 2**

You enter the clinic room and find Mrs. Smith already tearful about “having ovarian cancer”. On history Mrs. Smith reveals that she has been more tired that usual but attributes that to stresses associated with her job as a labour and delivery room nurse.

Her menstrual cycles are regular but she has skipped the occasional cycle in the last 2 years. Her last menstrual period was 3 weeks ago. She began menstruating at the age of 12. She has always used barrier methods for contraception and 4 years ago had an IUD inserted. She did not have any problem with her periods. She is a Gravida 3 Parity 2 Spontaneous Abortion 1. She was healthy throughout her pregnancies and had uncomplicated deliveries. She had difficulty conceiving her last child, and used Clomid for 2 cycles (they had been trying for 3 years). She had one miscarriage. She is sexually active and notices occasional deep dysparunea. She has not noticed any abdominal pain or bloating. She has been constipated more often in the last few months, but changes in diet relieve her constipation. She denies any changes in bladder function. She is otherwise healthy but does admit to smoking 1 pack of cigarettes daily. She is not on any medications. She reports that her mother died of bowel cancer at the age of 54, and her father is alive and well.

On examination: Blood pressure 110/70 Heart rate 75 RR14 Weight. 60 kilograms. Chest is clear. Heart sounds normal.
The abdomen appears slightly distended and the patient complains of vague discomfort when palpating the lower abdomen. No definite mass is felt. No ascites is noted. The pelvic exam is difficult due to Mrs. Smith’s discomfort. She states, “I have always had trouble with internal checks.” Inspection of the vulva, vagina and cervix is normal. You palpate a small cervix and a retroverted uterus but you can’t feel the fundus. The uterus feels mobile and you do not appreciate any obvious adnexal masses – you cannot palpate the ovaries.

After presenting the case to Dr. Wise, she asks you:

- “Did you do a rectal exam, if not why not?”
- “What is your differential diagnosis now?”
- “What further investigations are needed at this point to help formulate a management plan?”

You recommend ordering a number of tumor markers.
- Dr. Wise asks you to compare and contrast the different markers.

1. Address Dr. Wise’s questions.

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**Box 3**

You order a panel of tumour markers* and a repeat pelvic ultrasound. Mrs. Smith is booked for a follow-up appointment in 2 weeks. The repeat ultrasound is unchanged.

The blood tests are

| | | |
|---|---|---|
| Cancer antigen (CA)125 | 52 kU/L | (Normal <35kU/L) |
| CA 19-9 | 13 kU/L | (Normal <37kU/L) |
| CA 15-3 | 9 kU/L | (Normal <25kU/L) |
| Carcinogenic embryonic antigen (CEA) | 0.4kU/L | (Normal <4 kU/L) |

Mrs. Smith has arrived armed with information from the Internet –She wants to know:

- “Why did I need a repeat US?”
- “What were the results of my tumour markers?”
- “What do we do now?”

*(For information regarding tumor markers used in British Columbia see website http://www.bccancer.bc.ca/HPI/CancerManagementGuidelines/TumourMarkers/start.htm)

1. Address the patient’s questions.
2. What would be the significance of an elevated CA 15-3? CA 19-9? CEA?
3. What is the sensitivity and specificity of CA 125 as a screening tool for ovarian cancer?

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**Box 4**

Mrs. Smith insists on having surgery and begs Dr. Wise to “look inside”. Dr. Wise agrees to do a laparoscopy at the patient’s insistence.

 Dr. Wise asks you, “What procedure will you book and what issues need to be discussed when obtaining informed consent from this patient?”

The patient is fitted into a cancelled slot in the OR next week. Dr. Wise asks you to join her in the operating room.

At the time of the laparoscopy a 10 cm mobile, smooth-walled, right ovarian mass is discovered. The uterus and left ovary are normal. There is a small amount of free fluid present in the cul-de-sac and this is aspirated and sent for cytology. The upper abdomen is normal—there is no disease visible on the diaphragm or liver surface. There is no evidence of endometriosis and the left ovary appears normal.

1. As you have recently completed your rotation in Gynecologic Oncology, Dr. Wise asks you to outline an intra-operative plan of management for this right ovarian tumour.

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**Box 5**

As the patient had only been consented for a diagnostic laparoscopy and left salpingoopherctomy(LSO), Dr. Smith is reluctant to proceed with a full staging procedure. Dr. Smith decides to proceed with laparoscopic right salpingoophorectomy. The specimen is sent for frozen section. The results of the frozen are reported as a serous cystadenocarcinoma.

See figure 1: gross pathology of specimen

Dr. Smith asks,

- "What is your operative plan now?"

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**Box 6**

Dr. Smith decides to end the procedure at this point, discuss the results with the patient and refer her to a Regional Cancer Agency. On inpatient rounds the next day the patient has a number of questions for you. Her husband has shared the results of the frozen section with her.

Mrs. Smith asks you,

- “How did this happen? What causes ovarian cancer?”
- “Since you removed the bad ovary do I need any more treatment?”
- “Am I going to die from this cancer?”

1. Please address the patient’s questions.
2. Outline the pre-operative investigations of women with ovarian cancer.

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**Box 7**

The patient is referred to the British Columbia Cancer Agency in Vancouver and her case discussed at Tumour Conference. The frozen section on the right salpingoopherectomy is reviewed. The washings that were taken at the initial surgery are negative for any malignant cells.

A decision is made to take the patient back to the operating room for a standard surgical staging procedure. A decision regarding need for other adjuvant treatment will be made once this is completed. You make arrangements to attend the surgery with the Gynecologic Oncologist, Dr. Heywood.

While you are scrubbing, Dr. Heywood asks you:

- "Can you describe the steps of a staging laparotomy for ovarian cancer?"
- "What is the pattern of ovarian cancer spread?"
- "What is the goal of today's surgery?"

After performing an examination under anaesthesia, you make a midline infraumbilical incision. Washings are taken on entry into the abdomen. After careful inspection of all peritoneal surfaces, omentum, diaphragms, and liver, you run the bowel. There is no gross visible tumour.

1. Address Dr. Heywood's questions.

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**Box 8**

One week later the patient returns to Dr. Heywood's office to review the final pathology.

The final pathology reveals:No disease in the uterus, or left salpingoopherectomy. The washings are negative. All of the peritoneal and nodal biopsies are negative for tumour. The omentum contains a microscopic deposit of invasive serous adenocarcinoma.

Dr. Heywood asks you:

- "What is this patient's stage?"
- "What is her prognosis?"
- "What treatment will she receive, and what side effects she can expect?"

1. Address Dr. Heywood's questions.

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**Box 9**

Dr. Heywood counsels Mrs. Smith that she will need further treatment and describes the Regional Cancer Agency's protocol for her disease.
Mrs. Smith is terrified at the thought of chemotherapy. She saw the movie "Wit" and doesn't want to "go through all that" if it is not going to make a difference in the end.

She wants to know:
- "What are the chances that she would be cured with surgery alone?"

1. Address Mrs. Smith's question.

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**Box 9**

Epilogue:

Mrs. Clark received 3 cycles of Carboplatinum and Paclitaxel followed by whole abdominal and pelvic radiotherapy. Her first follow-up appointment is in 3 months with Dr. Heywood.

Being an evidence-based medicine guru, you ask Dr. Heywood, “How do you follow these patients and what is the point of picking up a recurrence? Can you actually do anything to change the patient’s outcome”?

Dr. Heywood smiles at you indulgently and says “Good question, what do you think?”

How do you respond?

1. Address Dr. Heywood’s question.

END OF CASE

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Figure 1

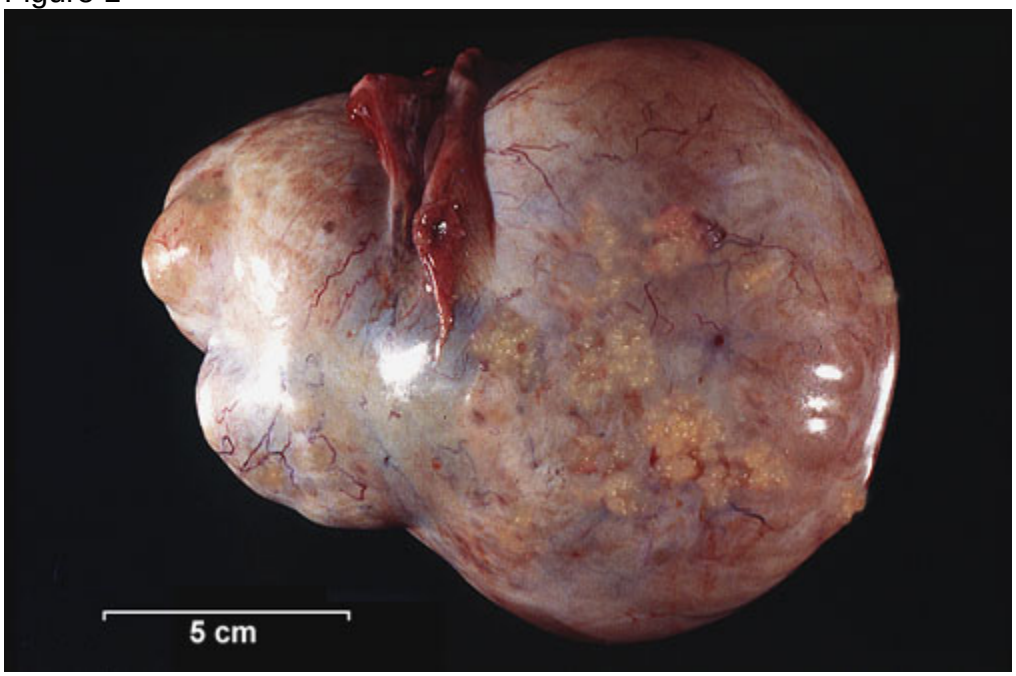


Image accessed on July 16, 2009 at
http://library.med.utah.edu/WebPath/jpeg4/FEM073.jpg

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