Second edition

100 Cases in Obstetrics and Gynaecology

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Series editor: Janice Rymer

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in Obstetrics and Gynaecology

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PREFACE TO SECOND EDITION

Following the success of the first edition of this book and the popularity of the 100 Cases Series, in this second edition we have revised many of the cases to reflect the most up-to-date practice, while retaining the cases reported to be most useful. Both authors are teachers and examiners in undergraduate and postgraduate obstetrics and gynaecology with pertinent knowledge of what is expected of medical students and junior doctors in the field.

This series remains unique in its stimulating questions regarding real clinical scenarios. The questions are highly relevant to everyday obstetrics and gynaecology and most are derived from real cases.

In this edition we have incorporated the newer medical developments in gynaecology, such as hysteroscopic sterilization by tubal cannulation, focused MRI for fibroids and insertion of the balloon catheter for a Bartholin's cyst. Additionally we have included cases with sometimes controversial ethical dimensions, such as maternal request for a caesarean section.

Several of the new cases focus on engaging women in the informed consent process, which is increasingly important in clinical exams, whether objective structured clinical examinations (OSCEs) or practical assessment of clinical examination skills (PACES).

We have ensured that the new cases incorporate recently published national guidance from national bodies such as the National Institute for Clinical Excellence (NICE) and the Royal College of Obstetricians and Gynaecologists (RCOG) or from specialist societies such as the British Society of Colposcopy and Cervical Pathology (BSCCP).

As with the first edition, the book is written with both junior clinicians and medical students in mind. It is an ideal refresher for foundation year and senior house officer level trainees starting their obstetrics and gynaecology placements.

The cases vary in complexity to reinforce important or common subject areas. They can be read through from start to finish or, more usefully for some readers, delved into between ward rounds, on the bus or after seeing a patient with a particular presenting complaint or condition. The book should reinforce knowledge and build confidence in some areas, challenge and stimulate thought in others and should provide a useful tool for learning in the specialty of obstetrics and gynaecology.

ABBREVIATIONS

AFP	alpha-fetoprotein
APH	antepartum haemorrhage
APTT	activated partial thromboplastin time
ARM	artificial rupture of membranes
BMI	body mass index
BV	bacterial vaginosis
CIN	cervical intraepithelial neoplasia
COCP	combined oral contraceptive pill
CT	computerized tomography
CTG	cardiotocograph
CTPA	computerized tomography pulmonary angiogram
CVS	chorionic villous sampling
DCDA	dichorionic diamniotic
DIC	disseminated intravascular coagulopathy
DUB	dysfunctional uterine bleeding
EAS	external anal sphincter
ECG	electrocardiogram
EIA	enzyme immunoassay
ERPC	evacuation of retained products of conception
FBS	fetal blood sampling
FSH	follicle-stimulating hormone
FTA-abs	treponemal antibody-absorbed (test)
GBS	group B streptococcus
GDM	gestational diabetes mellitus
GP	general practitioner
Hb	haemoglobin
hCG	human chorionic gonadotrophin
HELLP	haemolysis, elevated liver enzymes and low platelets
HIV	human immunodeficiency virus
HRT	hormone-replacement therapy
IAS	internal anal sphincter
Ig	immunoglobulin
INR	international normalized ratio
IUCD	intrauterine contraceptive device
IUS	intrauterine system
IVF	*in vitro* fertilization
LH	luteinizing hormone
LLETZ	large-loop excision of the transformation zone
LMP	last menstrual period date
MCH	mean cell haemoglobin
MoM	multiples of the median
MRI	magnetic resonance imaging
NT	nuchal translucency
OAB	overactive bladder syndrome
OC	obstetric cholestasis
PCA	patient-controlled analgesia

PCOS	polycystic ovarian syndrome
PE	pulmonary embolism
PIH	pregnancy-induced hypertension
PMB	postmenopausal bleeding
PMS	premenstrual syndrome
POP	progesterone only pill
PPH	postpartum haemorrhage
PUL	pregnancy of unknown location
RDS	respiratory distress syndrome
SLE	systemic lupus erythematosus
SPD	symphysiopelvic dysfunction
STI	sexually transmitted infection
TCRF	transcervical resection of a fibroid
TEDS	thromboembolic stocking
TIBC	total iron-binding capacity
TPN	total parenteral nutrition
TSH	thyroid-stimulating hormone
T_3	tri-iodothyronine
T_4	thyroxine
UTI	urinary tract infection
VBAC	vaginal birth after caesarean
VDRL	venereal disease research laboratory (test)
VTE	venous thromboembolism
WHO	World Health Organization

Section 1
GENERAL GYNAECOLOGY

CASE 1: INTERMENSTRUAL BLEEDING

History

A 48-year-old woman presents with intermenstrual bleeding for 2 months. Episodes of bleeding occur any time in the cycle. This is usually fresh red blood and much lighter than a normal period. It can last for 1–6 days. There is no associated pain. She has no hot flushes or night sweats. She is sexually active and has not noticed vaginal dryness.

She has three children and has used the progesterone only pill for contraception for 5 years.

Her last smear test was 2 years ago and all smears have been normal. She takes no medication and has no other relevant medical history.

Examination

The abdominal examination is unremarkable. Speculum examination shows a slightly atrophic-looking vagina and cervix but there are no apparent cervical lesions and there is no current bleeding.

On bimanual examination the uterus is non-tender and of normal size, axial and mobile. There are no palpable adnexal masses.

INVESTIGATIONS

		Normal range
Haemoglobin	12.7 g/dL	11.7–15.7 g/dL
White cell count	4.5×10^9/L	$3.5–11 \times 10^9$/L
Platelets	401×10^9/L	$150–440 \times 10^9$/L

Transvaginal ultrasound scan and hydrosonography are shown in Fig. 1.1.

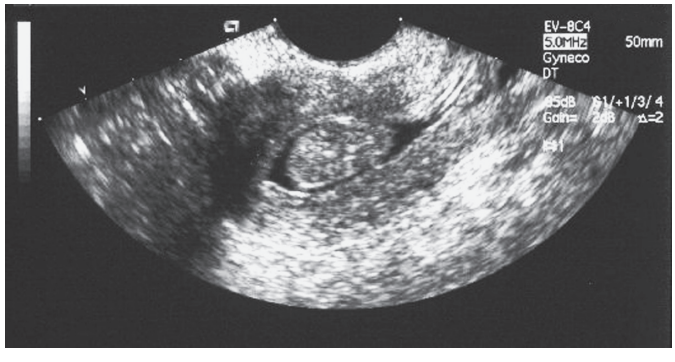

Figure 1.1 Transvaginal ultrasound image showing midsagittal view of the uterine cavity after installation of saline (hydrosonography).

Questions

- What is the diagnosis and differential diagnosis?
- How would you further investigate and manage this woman?

ANSWER 1

The diagnosis is of an endometrial polyp, shown in the ultrasound image as a mass, surrounded by the instilled fluid, within the endometrial cavity (Fig. 1.1). These can occur in women of any age, although they are more common in older women and may be asymptomatic or cause irregular bleeding or discharge. The aetiology is uncertain and the vast majority are benign. In this specific case all the differential diagnoses are effectively excluded by the history and examination.

! Differential diagnosis for intermenstrual bleeding

- Cervical malignancy
- Cervical ectropion
- Endocervical polyp
- Atrophic vaginitis
- Pregnancy
- Irregular bleeding related to the contraceptive pill

Management

Any woman should be investigated if bleeding occurs between periods. In women over the age of 40 years, serious pathology, in particular endometrial carcinoma, should be excluded.

The polyp needs to be removed for two reasons:

1. to eliminate the cause of the bleeding
2. to obtain a histological report to ensure that it is not malignant.

Management involves outpatient or day case hysteroscopy, and resection of the polyp under direct vision using a diathermy loop or other resection technique (Fig. 1.2). This allows certainty that the polyp had been completely excised and also allows full inspection of the rest of the cavity to check for any other lesions or suspicious areas. In some settings, where hysteroscopic facilities are not available, a dilatation and curettage may be carried out with blind avulsion of the polyp with polyp forceps. This was the standard management in the past but is not the gold standard now, for the reasons explained.

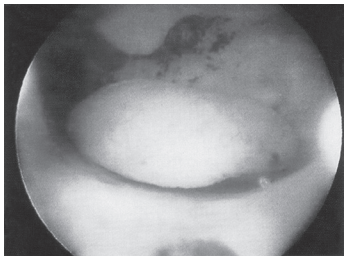

Figure 1.2 Hysteroscopic appearance of endometrial polyp prior to resection (see colour insert).

KEY POINTS

- Any woman over the age of 40 years should be investigated if bleeding occurs between the periods, to exclude serious pathology, in particular endometrial carcinoma.
- Hysteroscopy and dilatation and curettage is rarely indicated for women under the age of 40 years.

CASE 2: INFERTILITY

History

A 31-year-old woman has been trying to conceive for nearly 3 years without success. Her last period started 7 months ago and she has been having periods sporadically for about 5 years. She bleeds for 2–7 days and the periods occur with intervals of 2–9 months. There is no dysmenorrhoea but occasionally the bleeding is heavy.

She has been pregnant once in the past at the age of 19 years but that pregnancy was terminated for personal reasons. She had a laparoscopy several years ago for pelvic pain, which showed a normal pelvis.

Cervical smears have always been normal and there is no history of sexually transmitted infection.

The woman was diagnosed with irritable bowel syndrome when she was 25, after thorough investigation for other bowel conditions. She currently uses metoclopramide to increase gut motility, and antispasmodics.

Her partner is fit and well, and has two children by a previous relationship. Neither partner drinks alcohol or smokes.

INVESTIGATIONS

		Normal range
Follicle-stimulating hormone	3.1 IU/L	Day 2–5 1–11 IU/L
Luteinizing hormone	2.9 IU/L	Day 2–5 0.5–14.5 IU/L
Prolactin	1274 mu/L	90–520 mu/L
Testosterone	1.4 nmol/L	0.8–3.1 nmol/L
Thyroid-stimulating hormone	4.1 mu/L	0.5–7 mu/L
Free thyroxine	17 pmol/L	11–23 pmol/L
	Day 21 progesterone was requested but no period occurred for 3 months and therefore the test was not performed	

Questions

- What is the diagnosis and its aetiology?
- How would you further investigate and manage this couple?

ANSWER 2

The infertility is likely to be secondary to anovulation. Normal testosterone and gonadotrophins and high prolactin suggest the likely case of anovulation is hyperprolactinaemia. Hyperprolactinaemia may be physiological in breast-feeding, pregnancy and stress. The commonest causes of pathological hyperprolactinaemia are tumours and idiopathic hypersecretion, but it may also be due to drugs, hypothyroidism, ectopic prolactin secretion or chronic renal failure. In this case the metoclopramide is the cause, as it is a dopamine antagonist (dopamine usually acts via the hypothalamus to cause inhibition of prolactin secretion, and if this is interrupted, prolactin is secreted to excess). Galactorrhoea is not a common symptom of hyperprolactinaemia, occurring in less than half of affected women.

! Drugs associated with hyperprolactinaemia (due to dopamine antagonist effects)

- Metoclopramide
- Phenothiazines (e.g. chlorpromazine, prochlorperazine, thioridazine)
- Reserpine
- Methyldopa
- Omeprazole, ranitidine, bendrofluazide (rare associations)

The metoclopramide should be stopped and the woman reviewed after 4–6 weeks to ensure that the periods have restarted and that the prolactin level has returned to normal. If this does not occur, then further investigation is needed to exclude other causes of hyperprolactinaemia, such as a pituitary micro- or macroadenoma. It would be advisable to carry out a day 21 progesterone level to confirm ovulatory cycles.

As with all women attempting to conceive, she should have her rubella immunity checked and should be advised to take periconceptual folic acid until 12 weeks of pregnancy to reduce the risk of neural tube defects.

If the woman fails to conceive after correction of hyperprolactinaemia, then a full fertility investigation should be planned with semen analysis and tubal patency testing (laparoscopy and dye test, hysterosalpingogram or hysterosalpingoconstrastsonography (hyCoSy)).

KEY POINTS

- A full drug history should be elicited in women with amenorrhoea or infertility.
- Galactorrhoea occurs in less than half of women with hyperprolactinaemia.
- Day 21 progesterone over 30 nmol/L is suggestive of ovulation.

CASE 3: AMENORRHOEA

History

A 32-year-old woman complains that she has not had a period for 3 months. Four home pregnancy tests have all been negative. She started her periods at the age of 15 years and until 30 years she had a normal 27-day cycle. She had one daughter by normal delivery 2 years ago, following which she breast-fed for 6 months. After that she had normal cycles again for several months and then her periods stopped abruptly. She was using the progesterone only pill for contraception while she was breast-feeding and stopped 6 months ago as she is keen to have another child. She reports symptoms of dryness during intercourse and has experienced sweating episodes at night as well as episodes of feeling extremely hot at any time of day. There is no relevant gynaecological history. The only medical history of note is that she has been hypothyroid for 10 years and takes thyroxine 100 mg per day. She does not take any alcohol, smoke or use recreational drugs.

Examination

Examination findings are unremarkable.

INVESTIGATIONS

		Normal range
Haemoglobin	12.2 g/dL	11.7–15.7 g/dL
White cell count	5.1×10^9/L	$3.5–11 \times 10^9$/L
Platelets	203×10^9/L	$150–440 \times 10^9$/L
Thyroid-stimulating hormone	3.6 mu/L	0.5–7 mu/L
Free thyroxine	21 pmol/L	11–23 pmol/L
Follicle-stimulating hormone	45 IU/L	Day 2–5 1–11 IU/L
Luteinizing hormone	30 IU/L	Day 2–5 0.5–14.5 IU/L
Prolactin	401 mu/L	90–520 mu/L
Oestradiol	87 pmol/L	Day 2–5 70–510 pmol/L
Testosterone	2.3 nmol/L	0.8–3.1 nmol/L

Questions

- What is the diagnosis?
- What further investigations should be performed?
- What are the key points in the management of this woman?

ANSWER 3

This woman has symptoms of amenorrhoea as well as hypo-oestrogenic vasomotor symptoms and vaginal dryness. The diagnosis is of premature menopause (premature ovarian failure), confirmed by the very high gonadotrophin levels. High levels occur because the ovary is resistant to the effects of gonadotrophins, and negative feedback to the hypothalamus and pituitary causes increasing secretion to try and stimulate the ovary. Sheehan's syndrome (pituitary necrosis after postpartum haemorrhage) would also cause amenorrhoea but would have inhibited breast-feeding and all menstruation since delivery.

Premature menopause (before the age of 40 years) occurs in 1 per cent of women and has significant physical and psychological consequences. It may be idiopathic but a familial tendency is common. In some cases it is an autoimmune condition (associated with hypothyroidism in this case). Disorders of the X chromosome can also be associated.

! Effects of premature menopause

- *Hypo-oestrogenic effects*:
  - vaginal dryness
  - vasomotor symptoms (hot flushes, night sweats)
  - osteoporosis
  - increased cardiovascular risk
- *Psychological and social effects*:
  - infertility
  - feeling of inadequacy as a woman
  - feelings of premature ageing and need to take HRT
  - impact on relationships

Further investigation

Osteoporosis may be prevented with continuous oestrogen replacement, but progesterone should also be given simultaneously (cyclically or continuously) to prevent the increased risk of endometrial carcinoma from unopposed oestrogen. Bone scan is necessary for baseline bone density and to help in monitoring the effects of hormone replacement. Chromosomal analysis identifies the rare cases of premature menopause due to fragile X syndrome or Turner's syndrome mosaicism.

Management

Osteoporosis may be prevented with oestrogen replacement, with progesterone protection of the uterus. Traditional HRT preparations or the combined oral contraceptive pill are effective, the latter making women feel more 'normal', with a monthly withdrawal bleed and a 'young person's' medication. In terms of future fertility, this woman's options are *in vitro* fertilization (IVF) with donor oocytes, adoption or the acceptance of only having one child. Occasionally premature menopause is a fluctuating condition (resistant ovary syndrome) whereby the ovaries may function intermittently. Contraception should therefore be used if it would be undesirable to become pregnant. Patient support organizations are a good source for women experiencing such an unexpected and stigmatizing diagnosis.

KEY POINTS

- Premature menopause (<40 years) occurs in 1 per cent of women.
- Oestrogen replacement is essential for bone and cardiovascular protection.
- It may be possible to conceive with IVF using donor oocytes.

CASE 4: PRIMARY INFERTILITY

History

A couple attends the gynaecology clinic because of failure to conceive. They stopped using condoms for contraception 19 months ago. There are no apparent sexual difficulties, and they have been having intercourse two to three times per week. In the last 6 months ovulation has been confirmed by the woman reporting a change in cervical mucus and a positive home urinary ovulation kit, and they have been having intercourse around this time.

The woman is 28 years old, with regular 29-day menstrual cycles and no previous gynaecological problems. Both the woman and her partner are generally healthy and have been together for 7 years. Neither reports any previous sexually transmitted infection.

Examination

The woman's investigations are normal, with normal gonadotrophins (LH and FSH), and confirmation of ovulation with a day 21 progesterone test. Chlamydia test is negative and she is immune to rubella. Hysterosalpingogram confirms patent fallopian tubes and normal morphology of the endometrial cavity.

INVESTIGATIONS

The semen analysis for her partner is as follows:

Parameter		*Normal range (World Health Organization)*
Semen volume	3.2 mL	>1.5 mL
Total sperm number	9.6 million	39 million per ejaculate
Sperm concentration	3 million/mL	>15 million/mL
Total motility (progressive and non-progressive)	9%	>40%
Live spermatozoa	45%	>58%
Sperm morphology (normal forms)	3%	>4%

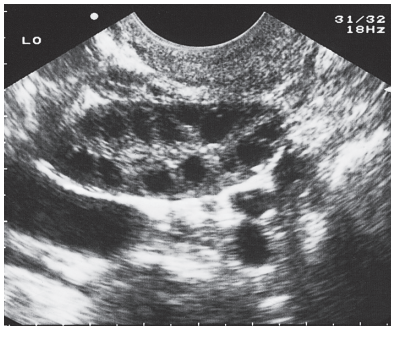

Figure 4.1 Transvaginal ultrasound scan.

Questions

1. What does the semen analysis show?
2. What further information should you ascertain from the man?
3. What does the ultrasound show and what is the significance of this in this case?
4. What further investigation and management would you plan for the management of this couple's infertility?

ANSWER 4

Semen analysis interpretation

Normal ranges for semen characteristics are published by the World Health Organization (WHO). The nomenclature applied to abnormal semen quality depends on the degree of abnormality and the specific type of abnormality. In this case the sample would suggest oligoasthenoterato-zoospermia (total number and concentration of spermatozoa, and percentages of both progressively motile and morphologically normal spermatozoa, all below the lower reference limits).

Further information to be ascertained

The history from the man is insufficient. Further enquiries should include:

- Occupation (infertility has been associated with occupational exposure to chemicals and with scrotal temperature)
- Smoking history
- Alcohol intake
- Previous medical history (cystic fibrosis, mumps or testicular torsion may affect fertility)
- Recent viral illness (may also affect spermatogenesis)

It should be confirmed that the semen sample was provided following the recommended procedures:

- Collected after at least 48 h but no more than 7 days of sexual abstinence
- Delivered to the laboratory within 1 h of production
- Collected by masturbation and ejaculated into a clean glass or plastic container, protected from extremes of temperature (below 20°C or above 40°C)

Ultrasound findings

The image shows an ovary which is polycystic in morphology. This is not a relevant factor for this couple as she has regular periods and the day 21 blood test confirms ovulation.

Further investigation and management

The abnormal sperm quality is the likely cause of infertility, but the semen analysis must be repeated to confirm that it is not a transient effect, e.g. of a recent viral illness. Causes of oligospermia may be pretesticular (such as pituitary tumours, smoking or medication), testicular (such as varicocoele, trauma, mumps or Y chromosome deletions) or post-testicular (such as prostatitis or cystic fibrosis causing vas deferens obstruction). Referral to an andrologist can be useful in these cases as some causes of oligospermia are amenable to treatment.

He should also be examined for scrotal size and morphology. Testicular biopsy may be indicated to rule out pathology. Percutaneous sperm aspiration from the testis can be carried out in a man with complete azoospermia from an obstructive cause (not relevant for this couple where the man does have some sperm in the seminal fluid).

Assuming the semen quality remains poor on repeat analysis after 3 months, then the couple will need assisted conception with *in vitro* fertilization and intracytoplasmic sperm injection (direct injection of a single sperm into an egg) to achieve a pregnancy.

CASE 5: INFERTILITY

History

A 37-year-old woman is seen in the clinic because of infertility. She is gravida 2 para 1 having had a daughter 13 years ago, and a miscarriage 2 years later. She separated from her former husband and has now married again and is keen to conceive, especially as her new partner has no children.

Her last period started 45 days ago. She says that her periods are sometimes regular but at other times she has missed a period for up to 3 months. The bleeding is moderate and lasts for up to 4 days. There is no history of pelvic pain or dyspareunia, and no irregular bleeding or discharge. Alcohol intake is minimal and she does not smoke or take other drugs. There is no medical history of note and she takes no regular medication.

Her partner is 34 years old and is also fit and healthy with no significant history of ill-health or medications.

Examination

There are no abnormal features on examination of either partner.

INVESTIGATIONS (DURING THE NEXT MENSTRUAL CYCLE)

		Normal range
Day 3 follicle-stimulating hormone (FSH)	11.1 IU/L	Day 2–5 1–11 IU/L
Day 3 luteinizing hormone	6.8 IU/L	Day 2–5 0.5–14.5 IU/L
Prolactin	305 mu/L	90–520 mu/L
Testosterone	1.3 nmol/L	0.8–3.1 nmol/L
Day 21 progesterone	23 nmol/L	

Semen analysis report: normal volume, count, normal forms and motility.
Hysterosalpingogram report: the uterine cavity is of normal shape with a smooth regular outline. Contrast medium is seen to fill both uterine tubes symmetrically and free spill of dye is confirmed bilaterally.
Transvaginal ultrasound scan report: the uterus is anteverted with no congenital abnormalities, uterine fibroids or polyps visualized. Both ovaries are of normal morphology, volume and mobility. No follicles are noted.

Questions

- What is the cause of the infertility?
- What are the further investigation and management options?

ANSWER 5

Women with irregular periods often do not ovulate. Anovulation in this case is confirmed by the low day 21 progesterone level. The commonest cause of anovulation is polycystic ovaries, but in this case the ovaries show normal morphology and the androgen levels are normal.

The noticeable abnormality is the high FSH level and the fact that no follicles are visualized at ultrasound scan. This is suggestive of anovulation from premature failure of ovarian function. The woman is not menopausal because she still has periods, although irregular, and the FSH is only marginally raised. However it is known that FSH levels above 10 IU/L are associated with a poor prognosis for conception using the woman's own ova.

Further investigation

The FSH should be repeated, as it is possible that this could be a sporadic result or poorly timed sample, and therefore confirmation is needed before continuing on to treatment.

Anti-Mullerian hormone (AMH) is a further test of ovarian reserve and ovarian responsiveness in women with infertility. It decreases with number of ovarian antral follicles and it can be used to predict likelihood of ovarian response and pregnancy with assisted conception. Optimal fertility is associated with AMH levels of 28–48 pmol/L, whereas levels less than 5 pmol/L are suggestive of poor success rates with natural or assisted conception.

Management

As there is such a poor prognosis for conception either naturally or with *in vitro* fertilization using the woman's own ova, she should be counselled about assisted conception using donor eggs. Donated oocytes are fertilized with the partner's sperm and then implanted into the uterus. The woman needs appropriate luteal phase support, most commonly with progesterone pessaries.

! Counselling issues for this couple

- *Psychological*:
  - the woman may feel that her ovaries are 'ageing' prematurely and this may have an effect on her self-esteem and sexuality.
  - the stress associated with assisted conception is significant and many couples find that this in itself puts a large burden on their relationship.
- *Funding*: public funding may not be available as the woman already has one child.
- *Consideration of alternative options*: adoption, surrogacy and acceptance of not being able to have a child together should be explored with the couple.

KEY POINTS

- FSH above 10 IU/L is associated with poor prognosis for fertility.
- Infertile couples should be encouraged to explore all options, including accepting childlessness and adoption as well as assisted conception techniques.
- Low AMH is associated with poor fertility. Values less than 5 pmol/L are associated with a very poor chance of IVF success.

CASE 6: SHORTNESS OF BREATH AND ABDOMINAL PAIN

History

A 72-year-old woman has been admitted with shortness of breath. On further questioning she says she has been unwell for about 8 weeks. She has decreased appetite and nausea when she eats. She has lost weight but her abdomen feels swollen. She has generalized dull abdominal pain and constipation, which is unusual for her. There are no urinary symptoms.

She has always been healthy with no previous hospital admissions. She is a widow and did not have any children. Her periods stopped at 52 years and she has had no postmenopausal bleeding. She has never taken hormone-replacement therapy.

Examination

She appears pale and breathless on talking. Chest expansion is reduced on the right side, with dullness to percussion and decreased air entry at the right base. The abdomen is generally distended with shifting dullness. There is a mass arising from the pelvis. Speculum examination is normal, but on bimanual palpation there is a fixed left iliac fossa mass of about 10 cm diameter.

INVESTIGATIONS

		Normal range
Haemoglobin	9.2 g/dL	11.7–15.7 g/dL
Mean cell volume	82 fL	80–99 fL
White cell count	4.1×10^9/L	$3.5–11 \times 10^9$/L
Platelets	197×10^9/L	$150–440 \times 10^9$/L
Sodium	135 mmol/L	135–145 mmol/L
Potassium	4.0 mmol/L	3.5–5 mmol/L
Urea	5.1 mmol/L	2.5–6.7 mmol/L
Creatinine	89 mmol/L	70–120 mmol/L
Alanine transaminase	18 IU/L	5–35 IU/L
Aspartate transaminase	17 IU/L	5–35 IU/L
Alkaline phosphatase	78 IU/L	30–300 IU/L
Bilirubin	12 mmol/L	3–17 mmol/L
Albumin	30 g/L	35–50 g/L
CA-125	118 ku/L	<30 ku/L

Chest X-ray and abdominal computerized tomography (CT) scan are shown in Figs. 6.1 and 6.2 respectively.

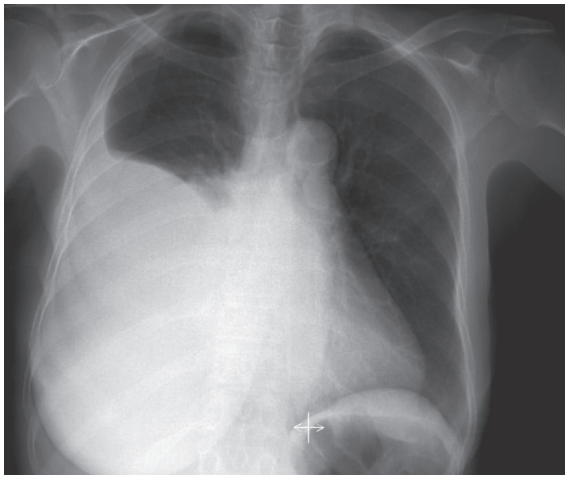

Figure 6.1 Chest X-ray.

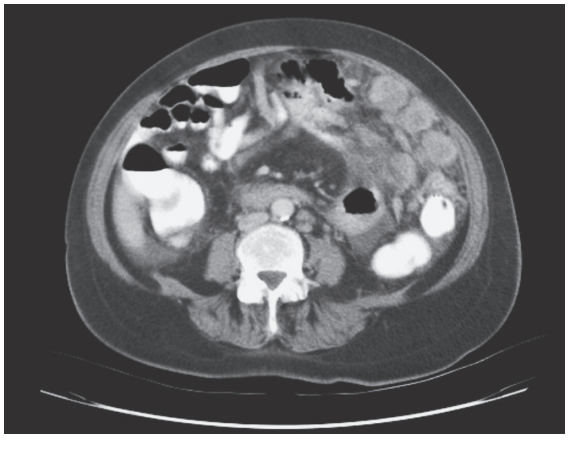

Figure 6.2 Abdominal CT scan.

Questions

- What is the likely diagnosis?
- How should this woman be further investigated?
- If the diagnosis is confirmed how should she be managed?

ANSWER 6

The history and examination are suggestive of a right pleural effusion and ascites. The presence of a pelvic mass would suggest that this is due to an ovarian or bowel problem. The chest X-ray confirms the effusion, and the CT shows a left-sided pelvic tumour and ascites. There are also solid areas in the anterior abdominal wall that represent omental infiltration by the tumour.

CA-125 is a non-specific marker for ovarian carcinoma. The diagnosis is therefore likely to be that of ovarian cancer which commonly presents with systemic symptoms when metastatic disease is already evident.

! Confirmation of the diagnosis and management

The surgical aphorism 'there is no diagnosis without a surgical diagnosis' means that tissue needs to be obtained to confirm the diagnosis. Laparotomy should be performed with three objectives:

1. obtaining tissue for diagnosis
2. staging the disease according to the extent of tissue involvement
3. primary debulking – to perform a total abdominal hysterectomy and bilateral salping-oophorectomy and to reduce all abdominal tumour deposits to a volume of less than 2 cm. This allows optimal effect of chemotherapy following surgery. Lymph node dissection and omental resection are usually part of the procedure.

Prior to any treatment this woman also needs drainage of her pleural effusion for symptomatic relief and optimization for anaesthetic.

The prognosis for ovarian cancer is poor, as most women present at stage 3 or 4.

! Ovarian cancer staging and prognosis

Stage			Prognosis (5-year survival rate)
Stage 1 Confined to the ovaries	1A	One ovary affected, ovarian capsule is intact	90%
	1B	Both ovaries affected, ovarian capsules intact	
	1C	Ovarian capsule is ruptured, tumour on ovarian surface or malignant cells detected in ascites or peritoneal washings	
Stage 2 Pelvic spread	2A	Extension or implantation into the uterus and/or fallopian tubes (no malignant cells in ascites/peritoneal washings)	65%
	2B	Extension to another organ in the pelvis (no malignant cells in ascites/peritoneal washings)	
	2C	As for 2A/B plus malignant cells in ascites/peritoneal washings	

continued

Ovarian cancer staging and prognosis – *continued*

Stage		Prognosis (5-year survival rate)
Stage 3 Peritoneal metastasis outside the pelvis and/or regional lymph node metastasis (includes liver capsule metastasis)	3A Microscopic peritoneal metastasis beyond the pelvis 3B Macroscopic peritoneal metastasis beyond the pelvis (max. diameter 2 cm) 3C Macroscopic peritoneal metastasis beyond the pelvis (max. diameter >2 cm) and/or distant lymph node metastases	35%
Stage 4 Distant metastasis beyond the peritoneal cavity (or liver parenchymal metastasis)		20%

KEY POINTS

- CA-125 is a non-specific marker for ovarian cancer.
- Ovarian cancer commonly presents late (stage 3/4) and prognosis is poor.
- Staging and primary treatment is by laparotomy, total abdominal hysterectomy, bilateral salpingoophorectomy and debulking.
- Neoadjuvant chemotherapy (preoperative chemotherapy to shrink the tumour mass down so that debulking surgery is more likely to be successful) may also be considered depending on the extent of disease on imaging.
- Chemotherapy is often effective adjuvant therapy.