Vaginal discharge

Vaginal discharge is a common presenting symptom and is not always pathological

Common causes

- physiological
- *Candida*
- *Trichomonasvaginalis*
- bacterial vaginosis

Less common causes

- whilst cervical infections such as *Chlamydia* and Gonorrhoea can cause a vaginal discharge this is rarely the presenting symptoms
- ectropion
- foreign body
- cervical cancer

Key features of the common causes are listed below

Condition	Key features
Candida	'Cottage cheese' discharge Vulvitis Itch
Trichomonasvaginalis	Offensive, yellow/green, frothy discharge Vulvovaginitis Strawberry cervix
Bacterial vaginosis	Offensive, thin, white/grey, 'fishy' discharge

Ovarian enlargement: management

The initial imaging modality for suspected ovarian cysts/tumours is ultrasound. The report will usually report that the cyst is either:

- simple: unilocular, more likely to be physiological or benign
- complex: multilocular, more likely to be malignant

Management depends on the age of the patient and whether the patient is symptomatic. It should be remembered that the diagnosis of ovarian cancer is often delayed due to a vague presentation.

Premenopausal women

- a conservative approach may be taken for younger women (especially if < 35 years) as malignancy is less common. If the cyst is small (e.g. < 5 cm) and reported as 'simple' then it is highly likely to be benign. A repeat ultrasound should be arranged for 8-12 weeks and referral considered if it persists.

Postmenopausal women

- by definition physiological cysts are unlikely
- any postmenopausal woman with an ovarian cyst regardless of nature or size should be referred to gynaecology for assessment

Endometriosis

Endometriosis is a common condition characterised by the growth of ectopic endometrial tissue outside of the uterine cavity. Up to 10-15% of women have a degree of endometriosis

Clinical features

- chronic pelvic pain
- dysmenorrhoea - pain often starts days before bleeding
- deep dyspareunia
- subfertility

Less common features

- urinary symptoms e.g. dysuria, urgency
- dyschezia (painful bowel movements)

Investigation

- laparoscopy is the gold-standard investigation
- there is little role for investigation in primary care (e.g. ultrasound)- if the symptoms are significant the patient should be referred for a definitive diagnosis

Management depends on clinical features - there is poor correlation between laparoscopic findings and severity of symptoms

- NSAIDs and other analgesia for symptomatic relief
- combined oral contraceptive pill
- progestogens e.g. medroxyprogesterone acetate
- gonadotrophin-releasing hormone (GnRH) analogues - said to induce a 'pseudomenopause' due to the low oestrogen levels
- intrauterine system (Mirena)
- drug therapy unfortunately does not seem to have a significant impact on fertility rates

Surgery

- some treatments such as laparoscopic excision and laser treatment of endometriotic ovarian cysts may improve fertility

- **Pelvic pain**
-

In women the most common cause of pelvic pain is primary dysmenorrhoea. Some women also experience transient pain in the middle of their cycle secondary to ovulation (mittelschmerz). The table below gives characteristic features for other conditions causing pelvic pain:

Usually acute

Ectopic pregnancy	A typical history is a female with a history of 6-8 weeks amenorrhoea who presents with lower abdominal pain and later develops vaginal bleeding Shoulder tip pain and cervical excitation may be seen
Urinary tract infection	Dysuria and frequency are common but women may experience suprapubic burning secondary to cystitis
Appendicitis	Pain initial in the central abdomen before localising to the right iliac fossa Anorexia is common Tachycardia, low-grade pyrexia, tenderness in RIF Rovsing's sign: more pain in RIF than LIF when palpating LIF
Pelvic inflammatory disease	Pelvic pain, fever, deep dyspareunia, vaginal discharge, dysuria and menstrual irregularities may occur Cervical excitation may be found on examination
Ovarian torsion	Usually sudden onset unilateral lower abdominal pain. Onset may coincide with exercise. Nausea and vomiting are common Unilateral, tender adnexal mass on examination
Miscarriage	Vaginal bleeding and crampy lower abdominal pain following a period of amenorrhoea

- **Usually chronic**

Endometriosis	Chronic pelvic pain Dysmenorrhoea - pain often starts days before bleeding

	Deep dyspareunia Subfertility
Irritable bowel syndrome	Extremely common. The most consistent features are abdominal pain, bloating and change in bowel habit Features such as lethargy, nausea, backache and bladder symptoms may also be present
Ovarian cyst	Unilateral dull ache which may be intermittent or only occur during intercourse. Torsion or rupture may lead to severe abdominal pain Large cysts may cause abdominal swelling or pressure effects on the bladder
Urogenital prolapse	Seen in older women Sensation of pressure, heaviness, 'bearing-down' Urinary symptoms: incontinence, frequency, urgency

Menopause

The average women in the UK goes through the menopause when she is 51 years old. The climacteric is the period prior to the menopause where women may experience symptoms, as ovarian function starts to fail

Diagnosis

- 12 months after the last period in women > 50 years
- 24 months after the last period in women < 50 years

It is recommend to use effective contraception until the diagnosis has been confirmed using the above criteria

Cervical cancer screening: interpretation of results

The table below outlines the management of abnormal cervical smears (around 5% of all smears). Cervical intraepithelial neoplasia is abbreviated to CIN

Mild dyskaryosis	Consistent with CIN I. Previously women were offered a repeat smear after 6 months and referral for colposcopy if changes persisted Whilst this is still acceptable it is now considered best practice to refer women immediately for colposcopy
Moderate dyskaryosis	Consistent with CIN II. Refer for colposcopy
Severe dyskaryosis	Consistent with CIN III. Refer for colposcopy
Inadequate	Repeat smear - if persistent (3 inadequate samples), assessment by colposcopy

Ovarian cysts: types

Benign ovarian cysts are extremely common. They may be divided into physiological cysts, benign germ cell tumours, benign epithelial tumours and benign sex cord stromal tumours

Physiological cysts (functional cysts)

Follicular cysts

- commonest type of ovarian cyst
- due to non-rupture of the dominant follicle or failure of atresia in a non-dominant follicle
- commonly regress after several menstrual cycles

Corpus luteum cyst

- during the menstrual cycle if pregnancy doesn't occur the corpus luteum usually breaks down and disappears. If this doesn't occur the corpus luteum may fill with blood or fluid and form a corpus luteal cyst
- more likely to present with intraperitoneal bleeding than follicular cysts

Benign germ cell tumours

Dermoid cyst

- also called mature cystic teratomas. Usually lined with epithelial tissue and hence may contain skin appendages, hair and teeth
- most common benign ovarian tumour in woman under the age of 30 years
- median age of diagnosis is 30 years old
- bilateral in 10-20%
- usually asymptomatic. Torsion is more likely than with other ovarian tumours

Benign epithelial tumours

Arise from the ovarian surface epithelium

Serouscystadenoma

- the most common benign epithelial tumour which bears a resemblance to the most common type of ovarian cancer (serous carcinoma)
- bilateral in around 20%

Mucinous cystadenoma

- second most common benign epithelial tumour
- they are typically large and may become massive
- if ruptures may cause pseudomyxomaperitonei

Hormone replacement therapy: adverse effects

Hormone replacement therapy (HRT) involves the use of a small dose of oestrogen (combined with a progestogen in women with a uterus) to help alleviate menopausal symptoms.

Side-effects

- nausea
- breast tenderness
- fluid retention and weight gain

Potential complications

- increased risk of breast cancer: increased by the addition of a progestogen
- increased risk of endometrial cancer: reduced by the addition of a progestogen but not eliminated completely. The BNF states that the additional risk is eliminated if a progestogen is given continuously
- increased risk of venous thromboembolism: increased by the addition of a progestogen
- increased risk of stroke
- increased risk of ischaemic heart disease if taken more than 10 years after menopause

Breast cancer

- in the Women's Health Initiative (WHI) study there was a relative risk of 1.26 at 5 years of developing breast cancer
- the increased risk relates to duration of use
- breast cancer incidence is higher in women using combined preparations compared to oestrogen-only preparations
- the risk of breast cancer begins to decline when HRT is stopped and by 5 years it reaches the same level as in women who have never taken HRT

Trichomonasvaginalis

Trichomonasvaginalis is a highly motile, flagellated protozoan parasite

Features

- vaginal discharge: offensive, yellow/green, frothy
- vulvovaginitis
- strawberry cervix
- pH > 4.5
- in men is usually asymptomatic but may cause urethritis

Investigation

- microscopy of a wet mount

Management

- oral metronidazole for 5-7 days, although the BNF also supports the use of a one-off dose of 2g metronidazole

Dysmenorrhoea

Dysmenorrhoea is characterised by excessive pain during the menstrual period. It is traditionally divided into primary and secondary dysmenorrhoea.

Primary dysmenorrhoea

In primary dysmenorrhoea there is no underlying pelvic pathology. It affects up to 50% of menstruating women and usually appears within 1-2 years of the menarche. Excessive endometrial prostaglandin production is thought to be partially responsible.

Features

- pain typically starts just before or within a few hours of the period starting
- suprapubic cramping pains which may radiate to the back or down the thigh

Management

- NSAIDs such as mefenamic acid and ibuprofen are effective in up to 80% of women. They work by inhibiting prostaglandin production
- combined oral contraceptive pills are used second line

Secondary dysmenorrhoea

Secondary dysmenorrhoea typically develops many years after the menarche and is the result of an underlying pathology. In contrast to primary dysmenorrhoea the pain usually starts 3-4 days before the onset of the period. Causes include:

- endometriosis
- adenomyosis
- pelvic inflammatory disease
- intrauterine devices*
- fibroids

Clinical Knowledge Summaries recommend referring all patients with secondary dysmenorrhoea to gynaecology for investigation.

*this refers to normal copper coils. Note that the intrauterine system (Mirena) may help dysmenorrhoea

Gestational trophoblastic disorders

Describes a spectrum of disorders originating from the placental trophoblast:

- complete hydatidiform mole
- partial hydatidiform mole
- choriocarcinoma

Complete hydatidiform mole

Benign tumour of trophoblastic material. Occurs when an empty egg is fertilized by a single sperm that then duplicates its own DNA, hence the all 46 chromosomes are of paternal origin

Features

- bleeding in first or early second trimester
- exaggerated symptoms of pregnancy e.g. hyperemesis
- uterus large for dates
- very high serum levels of human chorionic gonadotropin (hCG)
- hypertension and hyperthyroidism* may be seen

Management

- urgent referral to specialist centre - evacuation of the uterus is performed
- effective contraception is recommended to avoid pregnancy in the next 12 months

Around 2-3% go on to develop choriocarcinoma

In a **partial mole** a normal haploid egg may be fertilized by two sperms, or by one sperm with duplication of the paternal chromosomes. Therefore the DNA is both maternal and paternal in origin.

Usually triploid - e.g. 69 XXX or 69 XXY. Fetal parts may be seen

*hCG can mimic thyroid-stimulating hormone (TSH)

Bacterial vaginosis

Bacterial vaginosis (BV) describes an overgrowth of predominately anaerobic organisms such as Gardnerella vaginalis. This leads to a consequent fall in lactic acid producing aerobic lactobacilli resulting in a raised vaginal pH.

Whilst BV is not a sexually transmitted infection it is seen almost exclusively in sexually active women.

Features

- vaginal discharge: 'fishy', offensive
- asymptomatic in 50%

Amsel's criteria for diagnosis of BV - 3 of the following 4 points should be present

- thin, white homogenous discharge
- clue cells on microscopy
- vaginal pH > 4.5
- positive whiff test (addition of potassium hydroxide results in fishy odour)

Management

- oral metronidazole for 5-7 days
- 70-80% initial cure rate
- relapse rate > 50% within 3 months
- the BNF suggests topical metronidazole or topical clindamycin as alternatives

Bacterial vaginosis in pregnancy

- results in an increased risk of preterm labour, low birth weight and chorioamnionitis, late miscarriage
- it was previously taught that oral metronidazole should be avoided in the first trimester and topical clindamycin used instead. Recent guidelines however recommend that oral metronidazole is used throughout pregnancy. The BNF still advises against the use of high dose metronidazole regimes

Miscarriage: types

Threatened miscarriage

- painless vaginal bleeding occurring before 24 weeks, but typically occurs at 6 - 9 weeks
- cervical os is closed
- complicates up to 25% of all pregnancies

Missed (delayed) miscarriage

- a gestational sac which contains a dead fetus before 20 weeks without the symptoms of expulsion
- mother may have light vaginal bleeding / discharge and the symptoms of pregnancy which disappear
- when the gestational sac is > 25 mm and no embryonic/fetal part can be seen it is sometimes described as a 'blighted ovum' or 'anembryonic pregnancy'

Inevitable miscarriage

- cervical os is open
- heavy bleeding with clots and pain

Incomplete miscarriage

- not all products of conception have been expelled

Menorrhagia: causes

Menorrhagia was previously defined as total blood loss > 80 ml per menses, but it is obviously difficult to quantify. The assessment and management of heavy periods has therefore shifted towards what the woman considers to be excessive and aims to improve quality of life measures.

Causes

- dysfunctional uterine bleeding: this describes menorrhagia in the absence of underlying pathology. This accounts for approximately half of patients
- anovulatory cycles: these are more common at the extremes of a women's reproductive life
- uterine fibroids
- hypothyroidism
- intrauterine devices*
- pelvic inflammatory disease
- bleeding disorders, e.g. von Willebrand disease

*this refers to normal copper coils. Note that the intrauterine system (Mirena) is used to treat menorrhagia

Menorrhagia: management

Menorrhagia was previously defined as total blood loss > 80 ml per menses, but it is obviously difficult

to quantify. The management has therefore shifted towards what the woman considers to be excessive. Prior to the 1990's many women underwent a hysterectomy to treat heavy periods but since that time the approach has altered radically. The management of menorrhagia now depends on whether a women needs contraception.

Investigations

- a full blood count should be performed in all women
- further investigations are based upon the history and examination findings

Does not require contraception

- either mefenamic acid 500 mg tds (particularly if there is dysmenorrhoea as well) or tranexamic acid 1 g tds. Both are started on the first day of the period
- if no improvement then try other drug whilst awaiting referral

Requires contraception, options include

- intrauterine system (Mirena) should be considered first-line
- combined oral contraceptive pill
- long-acting progestogens

Norethisterone 5 mg tds can be used as a short-term option to rapidly stop heavy menstrual bleeding.

Polycystic ovarian syndrome: management

Polycystic ovarian syndrome (PCOS) is a complex condition of ovarian dysfunction thought to affect between 5-20% of women of reproductive age. Management is complicated and problem based partly because the aetiology of PCOS is not fully understood. Both hyperinsulinaemia and high levels of luteinizing hormone are seen in PCOS and there appears to be some overlap with the metabolic syndrome.

General

- weight reduction if appropriate
- if a women requires contraception then a combined oral contraceptive (COC) pill may help regulate her cycle and induce a monthly bleed (see below)

Hirsutism and acne

- a COC pill may be used help manage hirsutism. Possible options include a third generation COC which has fewer androgenic effects or co-cyprindiol which has an anti-androgen action. Both of these types of COC may carry an increased risk of venous thromboembolism
- if doesn't respond to COC then topical eflornithine may be tried
- spironolactone, flutamide and finasteride may be used under specialist supervision

Infertility

- weight reduction if appropriate
- the management of infertility in patients with PCOS should be supervised by a specialist. There is an ongoing debate as to whether metformin, clomifene or a combination should be used to stimulate ovulation
- a 2007 trial published in the New England Journal of Medicine suggested clomifene was the most effective treatment. There is a potential risk of multiple pregnancies with anti-oestrogen* therapies such as clomifene. The RCOG published an opinion paper in 2008 and concluded that on current evidence metformin is

not a first line treatment of choice in the management of PCOS

- metformin is also used, either combined with clomifene or alone, particularly in patients who are obese
- gonadotrophins

*work by occupying hypothalamic oestrogen receptors without activating them. This interferes with the binding of oestradiol and thus prevents negative feedback inhibition of FSH secretion

Infertility

Infertility affects around 1 in 7 couples. Around 84% of couples who have regular sex will conceive within 1 year, and 92% within 2 years

Causes

- male factor 30%
- unexplained 20%
- ovulation failure 20%
- tubal damage 15%
- other causes 15%

Basic investigations

- semen analysis
- serum progesterone 7 days prior to expected next period

Interpretation of serum progestogen

< 16 nmol/l Repeat, if consistently low refer to specialist
16 - 30 nmol/l Repeat
> 30 nmol/l Indicates ovulation

Key counselling points

- folic acid
- aim for BMI 20-25
- advise regular sexual intercourse every 2 to 3 days

- smoking/drinking advice

Recurrent miscarriage

Recurrent miscarriage is defined as 3 or more consecutive spontaneous abortions. It occurs in around 1% of women

Causes

- antiphospholipid syndrome
- endocrine disorders: poorly controlled diabetes mellitus/thyroid disorders. Polycystic ovarian syndrome
- uterine abnormality: e.g. uterine septum
- parental chromosomal abnormalities
- smoking

Menopause: management

Many women have little or no symptoms around the menopause do not require any specific treatment other than advice and reassurance. Hormone replacement therapy (HRT) should be used primarily for the treatment of menopausal symptoms. It should no longer be given in an attempt to modify cardiovascular risk (following the Women's Health Initiative Study) but may be beneficial in the prevention and treatment of osteoporosis.

Management options for hot flushes or night sweats

- lifestyle advice: exercise, avoiding caffeine/spicy foods, lighter clothing
- hormone replacement therapy: most effective
- tibolone: unsuitable for use within 12 months of last menstrual period as may cause irregular bleeding
- clonidine: use is often limited by side-effects such as dry mouth, dizziness and nausea
- selective serotonin reuptake inhibitors: only small trials have been completed to date

Vaginal atrophy

- topical oestrogens

Premature ovarian failure

Premature ovarian failure is defined as the onset of menopausal symptoms and elevated gonadotrophin levels before the age of 40 years.

Causes

- idiopathic - the most common cause
- chemotherapy
- autoimmune
- radiation

Features are similar to those of the normal climacteric but the actual presenting problem may differ

- climacteric symptoms: hot flushes, night sweats
- infertility
- secondary amenorrhoea
- raised FSH, LH levels

Cervical cancer screening

The UK has a well established cervical cancer screening program which is estimated to prevent 1,000-4,000 deaths per year. It should be noted that cervical adenocarcinomas, which account for around 15% of cases, are frequently undetected by screening

Who is screened and how often?

A smear test is offered to all women between the ages of 25-64 years

- 25-49 years: 3-yearly screening
- 50-64 years: 5-yearly screening

How is performed?

There is currently a move away from traditional Papanicolaou (Pap) smears to liquid-based cytology (LBC). Rather than smearing the sample onto a slide the sample is either rinsed into the preservative fluid or the brush head is simply removed into the sample bottle containing the preservative fluid.

Advantages of LBC includes

- reduced rate of inadequate smears
- increased sensitivity and specificity

It is said that the best time to take a cervical smear is around mid-cycle. Whilst there is limited evidence to support this it is still the current advice given out by the NHS.

In Scotland women from the ages of 20-60 years are screened every 3 years.

Menstrual cycle

The menstrual cycle may be divided into the following phases:

	Days
Menstruation	1-4
Follicular phase (proliferative phase)	5-13
Ovulation	14
Luteal phase (secretory phase)	15-28

Further details are given in the table below

	Follicular phase (proliferative phase)	Luteal phase (secretory phase)
Ovarian histology	A number of follicles develop. One follicle will become dominant around the mid-follicular phase	Corpus luteum
Endometrial histology	Proliferation of endometrium	Endometrium changes to secretory lining under influence of progesterone
Hormones	A rise in FSH results in the development of follicles which in turn secrete oestradiol When the egg has matured, it secretes enough oestradiol to trigger the acute release of LH. This in turn leads to ovulation	Progesterone secreted by corpus luteum rises through the luteal phase. If fertilisation does not occur the corpus luteum will degenerate and progesterone levels fall Oestradiol levels also rise again during the luteal phase
Cervical mucus	Following menstruation the mucus is thick and forms a plug across the external os Just prior to ovulation the mucus becomes clear, acellular, low viscosity. It also becomes 'stretchy' - a quality termed spinnbarkeit	Under the influence of progesterone it becomes thick, scant, and tacky
Basal body temperature	Falls prior to ovulation due to the influence of oestradiol	Rises following ovulation in response to higher progesterone levels

Endometrial cancer

Endometrial cancer is classically seen in post-menopausal women but around 25% of cases occur before the menopause. It usually carries a good prognosis due to early detection

The risk factors for endometrial cancer are as follows*:

- obesity
- nulliparity
- late menopause
- unopposed oestrogen. The addition of a progestogen to oestrogen reduces this risk (e.g. In HRT). The BNF states that the additional risk is eliminated if a progestogen is given continuously
- diabetes mellitus
- tamoxifen
- polycystic ovarian syndrome

Features

- post-menopausal bleeding is the classic symptom
- pre-menopausal women may have a change intermenstrual bleeding
- pain and discharge are unusual features

Investigation

- first-line investigation is trans-vaginal ultrasound - a normal endometrial thickness (< 4 mm) has a high negative predictive value
- hysteroscopy with endometrial biopsy

Management

- localised disease is treated with total abdominal hysterectomy with bilateral salpingo-oophorectomy. Patients with high-risk disease may have post-operative radiotherapy
- progestogen therapy is sometimes used in frail elderly women not consider suitable for surgery

*the oral contraceptive pill is protective

Ovarian enlargement: management

The initial imaging modality for suspected ovarian cysts/tumours is ultrasound. The report will usually report that the cyst is either:

- simple: unilocular, more likely to be physiological or benign
- complex: multilocular, more likely to be malignant

Management depends on the age of the patient and whether the patient is symptomatic. It should be remembered that the diagnosis of ovarian cancer is often delayed due to a vague presentation.

Premenopausal women

- a conservative approach may be taken for younger women (especially if < 35 years) as malignancy is less common. If the cyst is small (e.g. < 5 cm) and reported as 'simple' then it is highly likely to be benign. A repeat ultrasound should be arranged for 8-12 weeks and referral considered if it persists.

Postmenopausal women

- by definition physiological cysts are unlikely
- any postmenopausal woman with an ovarian cyst regardless of nature or size should be referred to gynaecology for assessment

Menopause: complementary therapy

Up to 50% of women who are going through the menopause use complementary or alternative medicines to try and alleviate their symptoms. It is thus important to be aware of potential adverse effects.

Black Cohosh	Herbal medicine from a North American plant Actaea racemosa The Medicines and Healthcare products Regulatory Agency (MHRA) has given a preparation of Black Cohosh called Menoherb a Traditional Herbal Registration for the relief of menopausal symptoms The most important adverse effect to inform women about is the risk of liver toxicity The results of randomised controlled trials have been mixed
Evening primrose oil	May potentiate seizures

Ginseng	May cause sleep problems and nausea
Red clover	Contains a type of phytoestrogens Theoretical risk of endometrial hyperplasia and stimulating hormone-sensitive cancers
Dong Quai	Type of Chinese medicine May cause photosensitivity and interfere with warfarin metabolism

Uterine fibroids

Fibroids are benign smooth muscle tumours of the uterus. They are through to occur in around 20% of white and around 50% of black women in the later reproductive years

Associations

- more common in Afro-Caribbean women
- rare before puberty, develop in response to oestrogen, don't tend to progress following menopause

Features

- may be asymptomatic
- menorrhagia
- bloating
- urinary symptoms, e.g. frequency, may occur with larger fibroids
- subfertility

Management

- medical: symptomatic management e.g. with combined oral contraceptive pill. GnRH agonists may reduce the size of the fibroid but are typically useful for short-term treatment
- surgery is sometimes needed
- uterine artery embolization

Complications

- red degeneration - haemorrhage into tumour - commonly occurs during pregnancy

Pelvic inflammatory disease

Pelvic inflammatory disease (PID) is a term used to describe infection and inflammation of the female pelvic organs including the uterus, fallopian tubes, ovaries and the surrounding peritoneum. It is usually the result of ascending infection from the endocervix

Causative organisms

- *Chlamydia trachomatis* - the most common cause
- *Neisseria gonorrhoeae*
- *Mycoplasma genitalium*
- Mycoplasma hominis

Features

- lower abdominal pain
- fever
- deep dyspareunia
- dysuria and menstrual irregularities may occur
- vaginal or cervical discharge
- cervical excitation

Investigation

- screen for *Chlamydia* and Gonorrhoea

Management

- due to the difficulty in making an accurate diagnosis, and the potential complications of untreated PID, consensus guidelines recommend having a low threshold for treatment
- oral ofloxacin + oral metronidazole or intramuscular ceftriaxone + oral doxycycline + oral metronidazole
- RCOG guidelines suggest that in mild cases of PID intrauterine contraceptive devices may be left in

Complications

- infertility - the risk may be as high as 10-20% after a single episode
- chronic pelvic pain
- ectopic pregnancy

Ovarian hyperstimulation syndrome

Ovarian hyperstimulation syndrome (OHSS) is a complication seen in some forms of infertility treatment. It is postulated that the presence of multiple luteinized cysts within the ovaries results in high levels of not only oestrogens and progesterone but also vasoactive substances such as vascular endothelial growth factor (VEGF). This results in increased membrane permeability and loss of fluid from the intravascular compartment

Whilst it is rarely seen with clomifene therapy is more likely to be seen following gonadotropin or hCG treatment. Up to one third of women who are having IVF may experience a mild form of OHSS

The RCOG uses the following classification of OHSS

Mild	**Moderate**	**Severe**	**Critical**
• Abdominal pain • Abdominal bloating	• As for mild • Nausea and vomiting • Ultrasound evidence of ascites	• As for moderate • Clinical evidence of ascites • Oliguria • Haematocrit > 45% • Hypoproteinaemia	• As for severe • Thromboembolism • Acute respiratory distress syndrome • Anuria • Tense ascites

Urinary incontinence

Urinary incontinence (UI) is a common problem, affecting around 4-5% of the UK population. It is more common in elderly females. NICE released guidance on the management of UI in 2006

Causes

- overactive bladder (OAB)/urge incontinence: due to detrusor over activity
- stress incontinence: leaking small amounts when coughing or laughing
- mixed incontinence: both urge and stress
- overflow incontinence: due to bladder outlet obstruction, e.g. due to prostate enlargement

Initial investigation

- bladder diaries should be completed for a minimum of 3 days
- urine dipstick and culture

Management depends on whether urge or stress UI is the predominant picture. If urge incontinence is predominant:

- bladder retraining (lasts for a minimum of 6 weeks, the idea is to gradually increase the intervals between voiding)
- bladder stabilising drugs: immediate release oxybutynin is first-line
- surgical management: e.g. sacral nerve stimulation

If stress incontinence is predominant:

- pelvic floor muscle training (for a minimum of 3 months)
- surgical procedures: e.g. retropubic mid-urethral tape procedures