Chapter 7
Genito-urinary system

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1 Bladder and urinary disorders

1.1 Urinary frequency, enuresis, and incontinence

Incontinence in adults from detrusor instability is managed by combining drug therapy with pelvic floor exercises and bladder training; stress incontinence is generally managed by non-drug methods.

Drug Treatment

By exerting a relaxant effect on urinary smooth muscle, antimuscarinic drugs reduce symptoms of urgency and urge incontinence and increase bladder capacity. Drugs include oxybutynin and tolterodine, and the newer antimuscarinics solifenacin and trospium.

Mirabegron is a newer drug, and has a relaxant effect on urinary smooth muscle via selective beta3 receptor stimulation.

Antimuscarinic side effects

constipation, dry mouth, sweating, dilation of pupils, dry skin, photophobia, skin flushing; NOTE – antimuscarinics can affect the performance of skilled tasks e.g. driving

1.2 Urinary retention

Acute retention is treated by catheterisation.

Chronic retention is painless and often caused by benign prostatic hyperplasia in men. It is treated either surgically or medically with alpha-blockers. Dutasteride and finasteride are alternatives to alpha-blockers.

1.2.1 Alpha-blockers

e.g. alfuzosin, terazosin, prazosin
(relax smooth muscle in benign prostatic hyperplasia)

First dose effect

First dose may cause collapse due to hypotensive effect (therefore should be taken on retiring to bed). Patient should be warned to lie down if symptoms such as dizziness, fatigue or sweating develop.

Driving

May affect performance of skilled tasks e.g. driving

1.2.2 Dutasteride and Finasteride

Conception and contraception

Both dutasteride and finasteride are excreted in semen and use of a condom is recommended if sexual partner is pregnant or likely to become pregnant.

Handling and storage

Women of childbearing potential should avoid handling crushed or broken tablets of finasteride and leaking capsules of dutasteride.

Male breast cancer

Changes to breast tissue such as lumps, pain, or nipple discharge, should be promptly reported to the doctor.

2 Contraception

Hormonal contraception is the most effective, but can have major and minor side-effects. Intra-uterine devices are a highly effective method of contraception but may produce undesirable local side-effects. Barrier methods alone (condoms, diaphragms, and caps) are less effective but can be reliable for well-motivated couples.

2.1 Combined hormonal

Contain oestrogen and progestogen; are effective preparations for general use. Advantages include:

- reliable and reversible;
- reduced dysmenorrhoea and menorrhagia;
- reduced incidence of premenstrual tension;
- less symptomatic fibroids and functional ovarian cysts;
- less benign breast disease;
- reduced risk of ovarian and endometrial cancer;
- reduced risk of pelvic inflammatory disease

2.1.1 Choice

A preparation with the lowest oestrogen and progestogen content which gives good cycle control and minimal side-effects is chosen. It is recommended that combined hormonal contraceptives are not continued beyond 50 years of age since more suitable alternatives exist.

- Low strength preparations
  appropriate for women with risk factors for circulatory disease – see progestogen-only
- Standard strength preparations
  appropriate for standard use - but DVT risk

Desogestrel, drospirenone, and gestodene (in combination with ethinylestradiol) may be considered for women who have side-effects (such as acne, headache, depression, breast symptoms, and breakthrough bleeding) with other progestogens.

2.1.2 Reason to stop immediately

Combined hormonal contraceptives or hormone replacement therapy (HRT) should be stopped, if any of the following occur:

- sudden severe chest pain
- sudden breathlessness (or cough with blood)
- unexplained swelling or severe pain in one leg
- severe stomach pain
- serious neurological effects including severe, prolonged headache, sudden partial or complete loss of vision, sudden disturbance of hearing, bad fainting attack, unexplained epileptic seizure or weakness, motor disturbances, very marked numbness suddenly affecting one side or one part of body
- hepatitis, jaundice, liver enlargement
- blood pressure above systolic 160 mmHg or diastolic 95 mmHg
- prolonged immobility after surgery or leg injury
- detection of a risk factor which contra-indicates treatment

2.1.3 Cautions

Migraine

Women should report any increase in headache frequency or onset of CNS symptoms (discontinue immediately and refer urgently to neurology if above neurological symptoms persist – see reasons to stop)

Travel

Increased risk of deep-vein thrombosis during travel involving long periods of immobility (over 3 hours); may be reduced by appropriate exercise and possibly by wearing graduated compression hosiery

Risk of venous thromboembolism

There is an increased with age, particularly during the first year. Use with caution if any of following factors present but avoid if two or more factors present:

- family history of venous thromboembolism in first-degree relative aged under 45 years
- obesity (avoid if BMI ≥ 35 kg)
- long-term immobilisation (avoid if bed bound)
- history of superficial thrombophlebitis
- age over 35 years (avoid if over 50 years)
- smoking

Combined hormonal contraceptives also slightly increase the risk of arterial thromboembolism.

Risk of arterial disease

Use with caution if any one of following factors present but avoid if two or more factors present:

- family history of arterial disease in first degree relative aged under 45 years
- diabetes mellitus (avoid if diabetes complications present)
- hypertension (avoid if blood pressure above systolic 160 mmHg or diastolic 95 mmHg)
- smoking (avoid if smoking 40 or more cigarettes daily)
- age over 35 years (avoid if over 50 years)
- obesity (avoid if BMI ≥ 35 kg)
- migraine without aura (avoid if migraine with aura)

2.1.4 Side effects

Breast cancer

A small increase in the risk of benign breast cancer in women taking the combined pill. The risk diminishes after stopping and disappears by about 10 years.

Cervical cancer

Use for 5 years or longer is associated with a small increased risk of cervical cancer; the risk diminishes after stopping and disappears by about 10 years.

2.1.5 Missed pill

The risk of losing contraceptive protection is greatest when a pill is omitted at the start or end of a cycle.

A missed pill is one that is 24 or more hours late. If a woman misses only one pill, she should take an active pill as soon as she remembers and then resume normal pill-taking (even if this means taking 2 pills together). No additional precautions are necessary.

If a woman misses 2 or more pills (especially from the first 7 in a packet), she may not be protected. She should take an active pill as soon as she remembers and then resume normal pill-taking. In addition, she must either abstain from sex or use an additional method of contraception such as a condom for the next 7 days. If these 7 days run beyond the end of the packet, the next packet should be started at once, omitting the pill-free interval.

Emergency contraception is recommended if 2 or more combined oral contraceptive tablets are missed from the first 7 tablets in a packet and unprotected

intercourse has occurred since finishing the last packet.

2.1.6 Diarrhoea and vomiting

If vomiting occurs within 2 hours of taking a combined oral contraceptive another pill should be taken as soon as possible. In cases of persistent vomiting or severe diarrhoea lasting more than 24 hours, additional contraception should be used during and for 7 days after recovery. If the vomiting and diarrhoea occurs during the last 7 tablets, the next pill-free interval should be omitted.

2.2 Progestogen-only

These are a suitable alternative to combined hormonal contraceptives when oestrogens are contra-indicated e.g. in those with venous thrombosis or a past history of it, heavy smokers, hypertension above systolic 160 mmHg or diastolic 95 mmHg, valvular heart disease, diabetes mellitus with complications, and migraine with aura.

See above for missed pill and breast cancer risk

2.3 Emergency contraception

2.3.1 Hormonal

Hormonal emergency contraceptives include levonorgestrel and ulipristal. Levonorgestrel is effective if taken within 72 hours (3 days) of unprotected intercourse, and Ulipristal within 120 hours (5 days) of unprotected intercourse.

2.3.2 Intra-uterine device

It can be inserted up to 120 hours (5 days) after unprotected sex. If intercourse has occurred more than 5 days previously, the device can still be inserted up to 5 days after the earliest likely calculated ovulation. STIs should be tested for and antibacterial prophylaxis given.

Risk of infection

Occurs in the first 20 days after insertion and is believed to be related to existing carriage of a sexually transmitted infection. Women are at a higher risk if:

- they are under 25 years old
- they are over 25 years old, and
  - have a new partner, or
  - have had > one partner in the past year, or
  - their regular partner has other partners

Safety information

The presence of severe pelvic pain, increased bleeding, period changes, and pain during intercourse indicates uterine perforation and may need medical attention.

3 Erectile dysfunction

Can occur due to psychogenic, vascular, neurogenic and endocrine abnormalities. Can also occur due to drugs such as antihypertensives, antidepressants, antipsychotics, and cytotoxic drugs.

Erectile disorders can be treated with drugs that increase blood flow to the penis e.g. alprostadil, and phosphodiesterase inhibitors (sildenafil, tadalafil and vardenafil).

4 Vaginal and vulval conditions

Symptoms are often restricted to the vulva, but infections almost invariably involve the vagina which should also be treated.

4.1 Infections

Fungal infections are treated with topical clotrimazole or miconazole, or oral fluconazole.

For other infections, clindamycin cream and metronidazole gel are indicated.

4.2 Vaginal atrophy

A cream containing an oestrogen may be applied on a short-term basis to improve the vaginal epithelium. Should be used in the smallest effective amount to minimise systemic effects. The risk of endometrial hyperplasia and carcinoma is increased when systemic oestrogens are administered alone.