Urinary tract disorders

Contents:

For full information on treatment side effects, cautions and contraindications, see electronic British National Formulary (www.bnf.org) or the relevant summary of product characteristics (www.medicines.org.uk).

For information on preparing intravenous medicines for administration, see Medusa Injectable Medicines Guide for the NHS (see Clinical Guidance home page)

1. Urinary retention

Tamsulosin and alfuzosin bind selectively and competitively to postsynaptic alpha$_1$-receptors, in particular to the subtype alpha$_{1A}$, which causes smooth muscle relaxation in the prostate and urethra. In turn, muscular tone is reduced and urinary flow rate is maximised.

The main reasons for treatment include:

i) Lower urinary tract symptoms suggestive of benign prostatic obstruction
ii) Acute urinary retention
iii) Urinary retention associated with benign prostatic hyperplasia and hypertension

i) Lower urinary tract symptoms suggestive of benign prostatic obstruction

First choice
Tamsulosin hydrochloride modified release 400 micrograms, orally, once daily after food

Second choice
Alfuzosin hydrochloride modified release 10mg, orally, once daily

If patient's prostate is enlarged
Finasteride 5mg, orally, once a day.

ii) Acute urinary retention

Catheterise, and then give

Alfuzosin hydrochloride modified release 10mg, orally, once daily for 2-3 days during catheterisation and one day after catheter removal; may need to consider continuing if urinary symptoms persist.
NOTE: Alpha-blockers cause hypotension therefore patients receiving antihypertensive treatment may require reduced dosage.

iii) Urinary retention associated with benign prostatic hyperplasia and hypertension

Doxazosin 1mg, orally, once daily. Dose may be doubled every 1–2 weeks according to response. Max: 8mg daily. Usual maintenance: 2–4mg daily.

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2. Urinary incontinence

This can be divided into key classes:
i) Overactive bladder
ii) Stress incontinence in women
iii) Nocturnal urinary incontinence

Patients should be assessed using a frequency volume chart and, preferably, a full urodynamic diagnosis should be made for all patients with incontinence before starting drug therapy.
NOTE: Metabolic disorders (e.g. diabetes) should be excluded

For more information on the management of these conditions, see **Bladder dysfunction: prescribing treatment for adults**.

i) Overactive bladder

See **Wirral Guidelines for Pharmacological management of Overactive Bladder Syndrome (OAB) in Adults in Primary and Secondary Care** for treatment guidelines, including initial assessment and conservative management.

ii) Stress incontinence in women

Duloxetine 20mg, orally, twice daily. Increase to 40mg twice daily if required. Must be used as adjunct to physiotherapy for full effectiveness.
Reserved for those not suitable for surgery, or who have a history of failed surgery.
NOTE: Consultant or Wirral Integrated Continence Service initiation ONLY.

iii) Nocturnal urinary incontinence

Amitriptyline 25 to 50mg, orally, daily at bedtime (unlicensed in adults)
Or
Imipramine 50 to 75mg, orally, daily at bedtime (unlicensed in adults)

Or, in adults up to 65 years of age
Desmopressin 200 micrograms, orally, daily at bedtime. Maximum: 400 micrograms daily. Withdraw for at least one week for reassessment after 3 months.
NOTE: Desmopressin is contraindicated for patients with cardiac insufficiency or those who require treatment with diuretics.

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3. Urethral pain — prevention during catheterisation

Lignocaine 2% and chlorhexidine 0.25% gel (Instillagel®) Instil into urethra at least 5 minutes before catheter insertion.
NOTE: Distal urethral pain in males is often referred pain from the proximal urethra or bladder and may not respond to local anaesthetic.

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4. Indwelling catheters— maintenance of patency

Bladder washouts are closed systems for direct connection onto the catheter funnel. The bag is left connected to the catheter for at least 20 minutes during which time the solution remains in the bladder. The solution and accumulated urine can then be collected in the bag. Consider more active catheter flushing via a catheter tipped syringe if blockages/debris are frequent as this will disturb and drain more debris.
To facilitate catheter patency, a urine output of 1500mL per day is advised.

First choice
Sodium chloride 0.9% 100mL bladder washout (currently, the most cost effective brand is Optiflo S)

Second choice — if powdery encrustations are present
Solution G (citrate solution) 100mL bladder washout (currently, the most cost effective brand is Optiflo G)

Use of antiseptic bladder washouts may predispose to the emergence of resistant organisms and are not recommended for use. If infection is suspected, remove the catheter (if possible) or treat with a systemic antibiotic.

Recurrent catheter blockages — prevention of debris build up
Vitamin C (ascorbic acid) 1g, orally, four times daily.

5. Interstitial cystitis

First choice
Chondroitin sulphate (Uracyst®) 400mg, as bladder instillation, once a week for 4 to 6 weeks then monthly until symptoms are relieved; retain in the bladder for as long as possible then void;
Or
Sodium hyaluronate (Cystitat®, Hyacyst®) 40mg or 120mg, as bladder instillation

Second Choice
Sodium hyaluronate 800mg and chondroitin sulphate 1g (iAluril®), as bladder instillation, once a week for 4 weeks, then every 2 weeks for 2 doses, then monthly

Third Choice
Pentosan polysulphate 100mg, orally, three times daily; take at least 1 hour before or 2 hours after meals.
NOTE: Pentosan polysulphate is contraindicated for patients with haemorrhagic disorders, bacterial endocarditis, active gastroduodenal ulceration, hypersensitivity to heparin or previous thrombocytopenia with heparin.

NOTE: This is an unlicensed medicine. To be initiated by a consultant urologist ONLY

6. Erectile dysfunction

See **Erectile dysfunction — Initial management in primary care (adults)** for treatment guidelines, including who to treat and how to conduct an initial assessment,

All patients who meet NICE criteria should be offered a trial of 4 doses of a phosphodiesterase type-5 (PDE5) inhibitor unless contraindicated. These drugs' onset of action can be delayed if they are taken with food.
PDE5 inhibitors are effective in approximately 80% of patients. Patients who fail to respond or cannot be prescribed a PDE5 inhibitor should be referred to the erectile dysfunction clinic.

First choice
Sildenafil 50mg, orally, approx 1 hour before sexual activity; adjust subsequent doses according to response if necessary to 25 to 100mg. Max: 1 dose in 24 hours. Approximate duration of action: up to 5 hours.

Second choice
Vardenafil 10mg (elderly 5mg), orally, 25 to 60 minutes before sexual activity; adjust subsequent doses to response if necessary to 5 to 20mg. Max: 1 dose in 24 hours. Approximate duration of action: up to 5 hours.

Third choice
Tadalafil 10mg, orally, at least 30 minutes before sexual activity; adjust subsequent doses up to max of 20mg if necessary. Max: 1 dose in 24 hours.
Approximate duration of action: up to 36 hours.

NOTE: PDE5 inhibitors are contraindicated for patients who:

- Are taking nicorandil or nitrates
- Have suffered an MI within the last 90 days (or the previous 6 months for vardenafil)
- Have suffered a cerebrovascular accident within the previous 6 months
- Have unstable angina or uncontrolled arrhythmias.
- Have hypotension (blood pressure < 90/50 mmHg) or uncontrolled hypertension
- Have severe hepatic impairment
- Have retinitis pigmentosa

By specialist (secondary care) initiation only
Alprostadil, transurethrally (MUSE® urethral stick); max: 2 doses in 24 hours and 7 doses in 7 days. First dose must be given by trained medical personnel.
Or
Alprostadil, intracavernosally (Caverject®); max: 1 dose in 24 hours and 3 doses per 7 days. First dose must be given by trained medical personnel.
Or
Active II® vacuum pump

7. Testosterone deficiency

Replacement therapy with testosterone can be prescribed for male patients with hypogonadism once testosterone deficiency has been confirmed by clinical symptoms and laboratory analysis.

Sustanon 250® Give 1mL, by deep IM injection, usually every 3 weeks.
Or
Testosterone 2% gel (Tostran®) Apply 3g (60mg testosterone) of gel to clean, dry, intact skin of the abdomen or both inner thighs, once a day. Adjust dose to response; max dose: 4g/day. Do not wash application site for 2 hours.
NOTE: It is essential to monitor PSA (prostate specific antigen) annually for all patients receiving testosterone therapy (more frequently if the PSA is raised or rising).

8. Priapism

Section under development