

As we have seen, various medications can affect bladder function.

Below are some of the pharmacological strategies for different bladder dysfunction. Further details are available in a separate article.

Overactive bladder:

1) anticholinergic drugs: such as Oxybutinin: Cystrin/ Ditropan (now available in slow-release form: Ditropan XL); typical dose of Ditropan is 5mg 2-3 times a day. Ditropan XL is taken once a day, and may have a beneficial effect after about a week.

Note that antidepressants such as amitriptyline and imipramine, which may be prescribed as adjuvant analgesics or for depression, have anticholinergic properties, so may be beneficial in reducing bladder instability. Anticholinergics act by blocking the passage of nerve signals through the spinal nerves.

However, their effects are non-specific and can result in a variety of side-effects: the one which causes most patients to discontinue treatment is dry mouth, which can be quite unpleasant, but managed by chewing sugar-free gum.

Other effects include constipation, blurred vision, nausea, drowsiness, confusion and weight gain.

These drugs are not suitable for patients with cardiac problems, as they may cause abnormalities in heart rhythm. Patients with glaucoma (closed-angle type) should not be treated with anticholinergics, nor should those with obstructive urinary tract disorders.

Oxybutinin was the 'gold standard' drug for 25 years or more.

Reports suggest that there is subjective improvement in 50-80% of patients with detrusor instability, but some specialists maintain that there is only 40% objective urodynamic improvement, and that up to half the patients discontinue treatment due to dry mouth.

The new slow release preparation was brought out in the United States in 1999, but was more recently approved for use in the UK.

It appears that the drug is absorbed in the large intestine rather than the stomach so that side-effects may be reduced. Propantheline bromide (Probanthine) is another similar antispasmodic drug. Doses range between 15 and 30mg every 6-8 hours, but it has a very high side-effect profile, so is now considered as a low-priority second-line choice.

2) Tolterodine (Detrusitol) is a new drug which is a muscarinic (cholinergic) receptor antagonist: that is, it blocks the effect of neurotransmitters which act on receptors which control bladder contraction and salivation.

Typical dose is 1-2 mg twice a day. Side-effects include, as expected, dry mouth; the drug cannot be used in people with urinary retention, gastric retention or glaucoma.

However, the drug is more bladder-selective than other similar drugs, and whilst it is as effective as oxybutinin, the incidence of severe dry mouth is lower.

3) Hyoscyamine sulfate (Levbid, Cytospaz) : an anticholinergic; contra-indicated for obstructive disorders, in patients with glaucoma and ulcerative colitis.

4) Dicyclomine hydrochloride (Bentyl) has a direct relaxant effect on smooth muscle as well as antimuscarinic action. Dose is 20mg three times a day. This drug increases bladder capacity

in patients with detrusor hyperreflexia.

5) Flavoxate hydrochloride (Urispas): direct inhibitory action on smooth muscle as well as anticholinergic and local analgesic (painkilling) properties. Recommended dose is 100-200mg three-four times daily. Results vary, with some reports of benefit in patients with unstable bladders, but no effect in trials in the elderly. Theoretically, the drug should have the advantage of maintaining good bladder contractility during micturition, but the US guidelines (AHCPR) do not recommend its use.

6) Other drugs used have included: prostaglandin inhibitors, scopolamine and bromocriptine.