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SAFER USE OF HIGH RISK MEDICINES

Waitemata District Health Board
Best Care for Everyone

OXYBUTYNIN – SAFE PRESCRIBING – A LITTLE BIT DRY

- ENSURE THE INDICATION IS APPROPRIATE – AVOID THE 'PRESCRIBING CASCADE'
- ENQUIRE ABOUT EYE HEALTH BEFORE PRESCRIBING
- START LOW AND GO SLOW – OLDER PEOPLE REQUIRE LOWER DOSES
- ASK ABOUT ADVERSE EFFECTS AND ACTIVELY MANAGE THESE

Oxybutynin decreases muscle spasms of the bladder, and increases bladder capacity. It is indicated for symptoms of urinary frequency and urgency[1] that result in incontinence.

Oxybutynin can cause classic anticholinergic adverse effects such as dry mouth, blurred vision, urinary retention, constipation, and confusion. These adverse effects may limit titration up to effective doses and reduce adherence to therapy. Advise people to report these adverse effects so they can be effectively managed.

If oxybutynin is not effective, or if there is a documented intolerance, the newer antimuscarincs solifenacin and tolterodine[2] are available as alternatives via Special Authority.[3,4]

Note: Anticholinergic side effects may still occur with these, but usually to a lesser extent.[5]

ENSURE THE INDICATION IS APPROPRIATE – AVOID THE 'PRESCRIBING CASCADE'

Before prescribing oxybutynin, investigate the cause of the symptoms because they could be medication-related.

The 'prescribing cascade' can occur when an adverse effect of a medicine is misinterpreted as a new medical condition. This can result in a new medicine being unnecessarily prescribed to treat this adverse effect, potentially leading to an additional issue that needs to be managed.[6]

Example of prescribing cascade

A patient taking amitriptyline 50mg for pain presents with incontinence. Amitriptyline's anticholinergic effects caused urinary retention leading to overflow incontinence. If this is not recognised, oxybutynin, another anticholinergic medicine might be prescribed, further aggravating the overflow incontinence. This combination can also cause constipation, requiring the addition of a laxative.[7]

In this case, one medicine has led to the use of two others; finding an alternative analgesic may have been more appropriate.[7]

Note: Medicines with anticholinergic effects compete for the same receptors as anticholinesterase inhibitors such as donepezil, negating their action. Co-prescription of oxybutynin with donepezil or other anticholinesterase inhibitors should be avoided.[8]

ENQUIRE ABOUT EYE HEALTH BEFORE PRESCRIBING

Anticholinergic medicines can aggravate glaucoma, and for this reason oxybutynin is contraindicated if the person has uncontrolled angle-closure glaucoma.[1] Oxybutynin should be used with caution if people are susceptible to angle-closure glaucoma.[9] Advise people to contact their doctor immediately if they notice a sudden loss of visual acuity or ocular pain.[1]

Dry eyes

Anticholinergic medicines often cause dry eyes; consult with an ophthalmologist before prescribing oxybutynin if dry eyes are already problematic.[5] Actively enquire about dry eyes during treatment;[5] offer lubricating eye drops or alternative medicines if it is particularly troublesome.

Note: Tolterodine can also cause dry eyes, possibly to a similar extent as oxybutynin.[5]

Anticholinergic medicines can also impair distant vision and dilate the pupils leading to increased light sensitivity. Night driving and potentially dangerous activities that rely on clear vision should be avoided if affected.

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OXYBUTYNIN

START LOW AND GO SLOW – OLDER PEOPLE REQUIRE LOWER DOSES

Oral oxybutynin undergoes gastrointestinal and hepatic first-pass metabolism producing high plasma levels of an active metabolite. This metabolite is associated with dry mouth, constipation and dizziness, which can be especially problematic for older adults.

Older adults may only require half the usual dose; start with oxybutynin, 2.5mg twice daily, and increase only if necessary.[10] Ask about adverse effects at each visit, especially if there is renal or hepatic impairment.[1]

All anticholinergic medicines should be used cautiously with cognitive impairment or Parkinson's disease because they can precipitate confusion. Oxybutynin can also exacerbate symptoms of hyperthyroidism, coronary heart disease, congestive heart failure, arrhythmia, tachycardia, hypertension and prostatic hypertrophy.[1]

The topical patch formulation of oxybutynin may reduce the occurrence of adverse effects compared to oral oxybutynin because of reduced first-pass metabolism, and lower plasma levels of the active metabolite.[11] The patch could be a useful option if there are troublesome adverse effects associated with the oral formulation.[10]

Note: Application site reactions and relative cost[12] may limit the patch's use.

ASK ABOUT ADVERSE EFFECTS AND ACTIVELY MANAGE THESE

Many of the adverse effects of anticholinergic medicines are dose-related; consider reducing the dose before switching to an alternative medicine or formulation. Some adverse effects can be effectively managed, inform people about these so they know to ask for advice if needed.

Dry mouth

Dry mouth is the most common and troublesome adverse effect of all anticholinergic medicines, affecting one in three people,[13] and is the main reason for discontinuing oxybutynin.[14] Persistent dry mouth can cause ulceration of the gums, tooth decay, and lead to fungal infections. Advise good oral hygiene and recommend saliva substitutes if necessary.

Note: Solifenacin and tolterodine can also cause dry mouth, but possibly to a lesser extent than oxybutynin.[5,14]

Gastrointestinal effects

Oxybutynin, like other anticholinergic medicines can decrease gastrointestinal motility and is contraindicated with severe ulcerative colitis. Reduced gastrointestinal motility also causes constipation. Ask about constipation at each visit and manage proactively with dietary advice and laxatives, where required.

Note: Diarrhoea may be a symptom of incomplete intestinal obstruction; if diarrhoea occurs, withdraw oxybutynin.[1]

Decreased sweating

Anticholinergic medicines decrease sweating and can cause flushing which may be problematic in hot environments. Warn people about the risk of overheating during exercise or in hot weather because these can lead to heatstroke and fever.[9] Hot baths and saunas should also be avoided because dizziness or fainting may result.

Drowsiness and confusion

Older adults have an increased risk of drowsiness, confusion and memory loss when using anticholinergic medicines. This risk is further increased if more than one anticholinergic medicine is prescribed. These central effects can lead to an increased risk of falls; make sure people taking these medicines and their caregivers are aware of this.[1]

Note: Alcohol may further increase the sedative effect of oxybutynin; everyone prescribed anticholinergic medicines should be advised to limit their alcohol intake.

Adverse effects of anticholinergic medicines[15]

Peripheral effects	Potential complications
Decreased salivation	Dental caries, gum ulceration
Decreased sweating	Hyperthermia
Increased pupil size	Photophobia, precipitation of acute narrow angle glaucoma, difficulty night-driving
Inhibition of accommodation	Blurred vision
Difficulty urinating	Urinary retention
Decreased gastrointestinal motility	Constipation
Central effects	**Potential complications**
Drowsiness and confusion	Falls

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