

RGH Pharmacy E-Bulletin

Volume 27 (6): September 3, 2007

A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.

Editor: Assoc. Prof. Chris Alderman, University of South Australia – Director of Pharmacy, RGH

© Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia 5041

Transdermal oxybutynin

There are a range of options available for the management of urinary incontinence, and the selection of therapy depends upon factors such as the type of incontinence, relevant comorbidities, drug tolerability, interactions, convenience for the patient, and other issues. Oxybutynin is an anticholinergic agent that is used in the treatment of urinary urge incontinence. Until recently, only an immediate-release oral formulation of oxybutynin (Ditropan) has been available on the Australian market.

Oral oxybutynin is effective in decreasing the urgency and frequency of both incontinent and voluntary urination; however adverse effects such as dry mouth are frequently dose limiting and may affect patient compliance. Oral oxybutynin undergoes extensive first-pass metabolism to an active metabolite, N-desethyloxybutynin, resulting in an absolute oral bioavailability of approximately 6%. N-desethyloxybutynin is strongly associated with anticholinergic side effects, especially dry mouth.

In May 2007 the Australian Therapeutic Goods Administration approved a transdermal patch formulation of oxybutynin, marketed in Australia under the brand name Oxytrol[®]. This product is designed to deliver an average of 3.9 mg oxybutynin per day over a period of 3 - 4 days, and is applied to the skin of the patient's abdomen, hip or buttock. The transdermal administration of oxybutynin bypasses the first-pass metabolism that occurs with oral oxybutynin, reducing the amount of N-desethyloxybutynin formed, and this thus theoretically reduces the incidence of anticholinergic adverse effects.

Clinical trials

Few trials have been conducted comparing transdermal oxybutynin to other pharmacological treatments used to treat overactive bladder. A small phase 2 dose titration study showed that transdermal oxybutynin was as effective as oral immediate-release oxybutynin, and was associated with a lower incidence of dry mouth. In two phase 3 studies, approximately one fifth of patients using transdermal oxybutynin experienced application site skin reactions. These reactions ranged from mild pruritis and erythema, to severe skin reactions that necessitated the discontinuation of treatment.

Current management of an overactive bladder involves finding the dose of anticholinergic drug that balances efficacy with patient tolerability of adverse effects. Dose titration with transdermal oxybutynin would be difficult, as only one dosage strength is available, and would require the application of more than one patch. No data has yet been reported to inform the use of a variable dose transdermal treatment approach, and this approach should not be routinely advocated until such time as more information is available.

Oxytrol[®] patches offer little advantage over the oral treatment approach, and in view of the significantly greater expense associated with this mode of drug delivery, this option should be reserved for patients for whom dry mouth secondary oral anticholinergics proves intolerable (or those unable to swallow/use oral medications).

Acknowledgment – This E-Bulletin is based on work by Ameeta Chhanabhai, Pharmacy Intern, RGH

FOR FURTHER INFORMATION – CONTACT THE PHARMACY DEPARTMENT ON 82751763 or email: chris.alderman@rgh.sa.gov.au
Information in this E-Bulletin is derived from critical analysis of available evidence – individual clinical circumstances should be considered when making treatment decisions. You are welcome to forward this E-bulletin by email to others you might feel would be interested, or to print the E-Bulletin for wider distribution. Reproduction of this material is permissible for purposes of individual study or research.