U.S. National Library of Medicine
National Center for Biotechnology Information

NLM Citation: LiverTox: Clinical and Research Information on Drug-Induced Liver Injury [Internet]. Bethesda (MD): National Institute of Diabetes and Digestive and Kidney Diseases; 2012-. Oxybutynin. [Updated 2017 Jul 7].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Oxybutynin

Updated: July 7, 2017.

OVERVIEW

Introduction

Oxybutynin is a synthetic anticholinergic agent that is used for treatment of urinary incontinence and overactive bladder syndrome. Oxybutynin has not been implicated in causing liver enzyme elevations or clinically apparent acute liver injury.

Background

Oxybutynin (ox" i bue' ti nin) is synthetic anticholinergic that has specificity for the M1, M2 and M3 subtypes of the muscarinic acetylcholine receptor which are commonly found in bladder smooth muscle. Oxybutynin is used largely for the treatment of overactive bladder and for symptoms of frequency and urge incontinence. Oxybutynin was approved for use in the United States in 1975 and is still widely used. It is available in regular and extended release tablets as well as oral solutions, syrups, and transdermal creams in various generic forms and under the trade name Ditropan. A transdermal patch formulation is available under the brand name Oxytrol. The usual adult oral dose is 10 to 20 mg daily in divided doses or in a single extended release tablet form. Common side effects are those of parasympathetic stimulation and include dryness of the mouth and eyes, decreased sweating, headache, visual blurring, constipation, urinary retention, impotence, tachycardia and palpitations, anxiety, restlessness and in some instances agitation and delusions. Anticholinergic agents can precipitate acute narrow angle glaucoma and acute urinary retention.

Hepatotoxicity

Like other anticholinergic agents, oxybutynin has not been linked to episodes of liver enzyme elevations or clinically apparent liver injury. A major reason for its safety may relate to the low daily dose. It is metabolized in the liver via the CYP 3A4 enzyme system and can cause significant drug-drug interactions.

References on the safety and potential hepatotoxicity of anticholinergics are given together after the Overview section on Anticholinergic Agents.

Drug Class: Anticholinergic Agents

PRODUCT INFORMATION

REPRESENTATIVE TRADE NAMES

Box continues on next page...

Box continued from previous page.

Oxybutynin – Generic, Oxytrol®

DRUG CLASS

Anticholinergic Agents

COMPLETE LABELING

Product labeling at DailyMed, National Library of Medicine, NIH

CHEMICAL FORMULA AND STRUCTURE

DRUG	CAS REGISTRY NUMBER	MOLECULAR FORMULA	STRUCTURE
Oxybutynin	5633-20-5	C22-H31-N-O3