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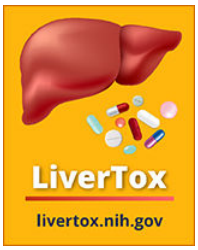

Sotalol

Updated: January 15, 2017.

OVERVIEW

Introduction

Sotalol is a nonselective beta-adrenergic blocker used largely in the therapy cardiac arrhythmias. Sotalol has been linked to at least one instance of clinically apparent liver injury.

Background

Sotalol (soe' ta lol) is a nonselective beta-blocker, acting on both beta-1 and beta-2 adrenergic receptors. Beta-1 adrenergic blockade reduces the heart rate and myocardial contractility by slowing the AV conduction and suppressing automaticity. Beta-2 blockade affects peripheral vascular resistance and can also cause bronchospasm and hypoglycemia. In addition, sotalol has unique antiarrhythmic activity not shared by all beta-blockers. Sotalol is indicated for the management of atrial and ventricular arrhythmias. While it has antihypertensive effects, sotalol is not generally used for treatment of hypertension alone. Sotalol was approved for use in the United States in 1992 and its current indications include maintenance of normal sinus rhythm in patients with symptomatic atrial fibrillation and treatment of severe or life-threatening ventricular arrhythmias. Sotalol is available in tablets of 80, 120, 160 and 240 mg in generic forms and under the trade names Betapace, Betapace AF and Sorine. The typical initial dose of sotalol in adults is 80 mg twice daily, with subsequent dose adjustment based upon clinical response and tolerance, the typical maintenance dose being 160 to 320 mg daily. Common side effects of sotalol include bradycardia, hypotension, fatigue, dizziness, depression, memory loss, impotence, cold limbs and, less commonly, severe hypotension, heart failure and bronchospasm. Sudden withdrawal can trigger rebound hypertension. Beta-blockers are contraindicated in patients with asthma, bradycardia and heart failure and should be used cautiously in the elderly and in patients with diabetes.

Hepatotoxicity

Mild-to-moderate elevations in serum aminotransferase levels occur in less than 2% of patients on sotalol and are usually transient and asymptomatic, resolving even with continuation of therapy. Sotalol has been linked to a single case of clinically apparent liver injury, with onset of an acute hepatitis-like syndrome with prolonged jaundice 12 weeks after sotalol was initiated. The injury improved but did not resolve with discontinuation of sotalol. In large case series of drug induced liver disease and acute liver failure, sotalol has not been listed as a cause. Other beta-blockers have been linked to rare instances of acute clinically apparent liver injury with a latency to onset ranging from 4 to 24 weeks, a hepatocellular pattern of serum enzyme elevations and a mild, self-limiting course without evidence of hypersensitivity or autoimmune reactions.

Likelihood score: E (unlikely cause of clinically apparent liver injury).

Mechanism of Injury

Sotalol undergoes minimal metabolism by the liver and is excreted largely unchanged in the urine. The reason why sotalol might cause liver injury is unknown. The acute liver injury attributed to other beta-blockers is likely to be idiosyncratic.

References to the safety and potential hepatotoxicity of sotalol are provided in the overview on Beta-Adrenergic Receptor Antagonists, last updated in June 2019.

Drug Class: Beta-Adrenergic Receptor Antagonists

PRODUCT INFORMATION

REPRESENTATIVE TRADE NAMES

Sotalol – Generic, Betapace®

DRUG CLASS

Beta-Adrenergic Receptor Antagonists

COMPLETE LABELING

Product labeling at DailyMed, National Library of Medicine, NIH

CHEMICAL FORMULA AND STRUCTURE

DRUG	CAS REGISTRY NUMBER	MOLECULAR FORMULA	STRUCTURE
Sotalol	3930-20-9	C12-H20-N2-O3-S