

In vitro study the effects of different antitussive drugs on the male rabbits intestinal smooth muscle motility.

Mustafa A.Hussein, and Nawal K.Ibraheem

Department of physiology/College of Medicine/University of Basrah

Abstract:

Cough syrup, is a medicinal drug used in an attempt to treat coughing and related conditions. For dry cough, treatment with cough suppressants or antitussives. While for the productive cough, the treatment is instead with expectorants, also called mucolytics. In the present study we tried to investigate the effects of four different cough mixtures: Tussiram (antitussive), Samilin, Solvodin (Expectorants, mucolytics) and Exidil (bronchodilator) from (Samara industry, Iraq)(SDI), on the mammalian intestinal smooth muscle motility, in order to determine whether these medications can contribute to bowel dysfunction and constipation.

Segments of jejunum was isolated from rabbits intestine and submerged in Tyroid's solution which has the same compositions of extracellular fluid of the rabbit, they were exposed to different volumes and concentrations of the four cough syrups, and the response were recorded by a lever inject ink on a slowly moving drum.

Tussiram and Exidil cough syrups induced a dose-dependent inhibitions of spontaneous activity of the jejunum, they induced a significant decrease in the amplitude of jejunal contractions and relaxations(motility), while Solvodin shows a little effect on jejunal motility and samilin cough syrups does not show any noticeable effect on rhythmic spontaneous jejunal motility.

Keywords: Cough, Cough syrups, smooth muscle motility, jejunum.

Introduction:

Coughing is the physiological reflex employed to clear irritant, foreign or particulate materials from the respiratory tract.¹ Cough is only a symptom not a disease, and is a common symptom when the air ways are tight as in asthma.² There are two types of cough: A productive cough, produces phlegm or mucus (sputum),³ and non productive cough, is dry and does not produce sputum.⁴ Cough medicine or linctus, is a medicinal drug used in an attempt to treat coughing and related conditions.³ For

dry coughs, treatment with cough suppressants(antitussives), may be attempted by suppressing the body's urge to cough.⁴ However, in productive coughs, treatment is instead with expectorants also known as mucolytics, an attempt to loosen mucus from the respiratory tract.⁷ On the other side, bronchodilator cough syrups that dilates the bronchi and bronchioles, decreasing resistance in the respiratory airways, and increasing air flow to the lungs, administered for the treatment of breathing difficulties as in asthma.⁸ It is important to note that, cough mixtures can actually be dangerous for patients with certain