متن زیر اصلاحیه ویراستاری نیتیو مقاله کاربر است.

Cost-Effectiveness and Cost-Utility analysis of the Simultaneous Use of Clopidogrel and Pantoprazole in Comparison with Simultaneous Use of Clopidogrel and Omeprazole for the Secondary Prevention of Myocardial Infarction in Iran

Abstract

Background: Gastrointestinal bleeding, a side effect of clopidogrel, is usually prevented by omeprazole in Iran. Due to omeprazole's inhibitory effects on CYP2C19, its concomitant use with clopidogrel is argued to increase the risk of myocardial infarction (MI) recurrence. The present study introduces pantoprazole as an alternative proton pump inhibitor (PPI) with a lower antagonistic effect.

Introduction

Cardiovascular diseases are the most common causes of death in the world (Iran included) and the most important causes of disability. Despite rapid advancements in diagnostic methods and therapeutic procedures, one-third of patients with MI die, and two-thirds of those who survive never fully recover or return to normal life. These diseases impose a huge financial burden on the health-care system of countries. However, cardiovascular diseases are some of the most preventable non-communicable diseases in humans [1] [2]. Based on clinical studies, the risk of heart attack increases tremendously after the first MI; therefore, in post-MI treatment, it is of utmost importance to prevent probable MI via medications. Anticoagulants such as aspirin and clopidogrel are commonly used in post-MI [3] [4]. A PPI is usually used together with clopidogrel to prevent its gastrointestinal side effects [5].

Clopidogrel is activated by the liver enzyme CYP2C19; drugs which inactivate this enzyme can potentially reduce the efficacy of clopidogrel. Consequently, the possible interactions between clopidogrel and PPIs have been a concern in recent studies, leading to the discovery of a particular possible negative interaction between clopidogrel and PPI (omeprazole). Although it is from the same drug family as omeprazole, pantoprazole does not affect the function of CYP2C19, and can reduce the side effects of clopidogrel without reducing its antiplatelet effect [6-9]. In addition to the FDA warning, the drug interaction between omeprazole and clopidogrel may increase the risk of MI as well as related costs for patients and health-care organizations [10]. Hence, the present study aimed to investigate the replacement of omeprazole with another PPI that possess less potential interaction, through cost-effectiveness and cost-utility analysis for the first time in Iran.