UNIVERSITI TEKNOLOGI MARA

SAFETY OF WARFARIN IN ATRIAL FIBRILLATION PATIENT

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ABSTRACT

Introduction: Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia and also a major risk factor of cerebrovascular accident. Warfarin is an oral anticoagulant that is primarily used for the prevention of systemic embolism in atrial fibrillation. However, due to its narrow therapeutic index, the optimization of warfarin therapy is quite challenging since it is associated with severe bleeding.

Aim: The aims of this study is to identify the characteristics of AF patients who are on warfarin and their incidence of bleeding and their INR value. This study also aim to evaluate the use of risk stratification scores to identify patients at high risk of developing stroke and bleeding.

Method: In this study, data was collected retrospectively from June 2012 until April 2014. The patient's medical record was collected from the medical record office and the pathology lab of Hospital Kajang. All data was collected and recorded in data collection form.

Results: Majority of patients were in range of 70-79 years old, malay and female. Most of the patients (67.6%) did not have any bleeding events. The incidence of major and minor bleeding were 8.8% and 22.1 % respectively. Most patients with low INR (INR $\leq$ 2)are at increased risk of blood clotting. Meanwhile, only 17.6% of patients with therapeutic INR which is 2 to 3. Based on their CHA2DS2-VASc score $\geq$ 2 which is 85.3%, indicates high risk of developing stroke and the need of oral anticoagulant (OAC). Majority of patients (70.6%) have a HAS-BLED score $\leq$ 3 which represents as lower risk of bleeding.

Conclusion: The results demonstrate the use of warfarin in AF can be considered as safe and appropriate. In order to determine the most appropriate antithrombotic therapy, it is recommended to calculate CHA_2DS_2-VASc score and HAS-BLED score to identify patients at high risk of developing stroke and bleeding with anticoagulant.

CHAPTER 1

INTRODUCTION

1.1 Background

Atrial Fibrillation (AF) is the most common type of arrhythmia. The normal resting heart rate is usually about 60 to 80 beats per minute. The atria contains the sinoatrial (SA) node which is the heart's pacemaker. This part is affected in patients with atrial fibrillation where it will contract rapidly and irregularly at 400 to 600 beats per minute. The ventricles may beat too fast at about 110 to 180 beats per minute in contrast to normal rates which is 60 to 100 beats per minute (Waktare, 2002). There are three types of atrial fibrillation which are paroxysmal AF, persistent AF, and permanent AF (Waktare, 2002). Atrial fibrilations (AF) tendsto associate with major risk of stroke and it becomes the most significant factor of ischemic stroke in people over age of 75 (Gomes et al., 2013; Hart & Halperin, 2001). Moreover, the risk of stroke in atrial fibrillation patients are five times higher than without atrial fibrillation and the stroke is also more severe rather than patients with sinus rhythm (Brass, Krumholz, Scinto, & Radford, 1997).

Warfarin is a vitamin K antagonist (VKA) which is generally used to avoid systemic embolism in patient with atrial fibrillation, prosthetic heart valve and inherited or acquired thrombophilic disorder (Garcia & Schwartz, 2011). Warfarin is used as an anticoagulant treatment for stroke prevention. It's mechanism of action involves inhibiting vitamin K clotting factors through γ carboxylation of glutamic acid residues of vitamin K dependent clotting factor II (prothrombin), VII , IX , and X.