

UNIVERSITI TEKNOLOGI MARA

**A COMPARISON BETWEEN BETA-BLOCKERS
ONLY AND BETA-BLOCKERS + DIURETICS AS
FIRST LINE ANTIHYPERTENSIVE THERAPY IN
PUSAT KESIHATAN SUNGAI BULOH**

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ABSTRACT

Uncomplicated essential hypertension still remains poorly controlled. This can be related to multiple factors including low efficacy of single antihypertensive drug therapies. There are several guidelines for the treatment of high blood pressure which now comprise of combination therapy with two drugs as one of the plan for the initial management of uncomplicated essential hypertension. Studies have recommended that using β -blocker in combination with diuretics may be more effective in reducing blood pressure. In this retrospective study, medical record card of hypertensive patients were screened and 420 cards of patients who have started on either β -blocker alone (either atenolol, metoprolol, or propranolol) or on β -blocker in combination with diuretics (either chlorothiazide, hydrochlorothiazide, frusemide and moduretic) as initial treatment were selected. Both group consisted of 210 patients each, with age ranging between 18 to 60 years old. Blood pressure measurements before (on the day patients were diagnosed with hypertension) and after starting medication (about 1 month) were recorded. Mean changes from baseline of systolic and diastolic blood pressure were 6/4 in β -blocker alone and 28/13 in β -blocker in combination with diuretic treated patients, $p < 0.05$, respectively. Meanwhile, higher response rates (diastolic BP ≤ 90 mmHg or ≥ 10 mmHg decrease from baseline) was found to be 58% in β -blocker in combination with diuretic treated patients compared to 42% in β -blocker alone. Moreover, β -blocker in combination with diuretic therapy is found to be safe as frequency of adverse drug reported in this treated patients was low (28%) compared to β -blocker alone (72%). In conclusion, increased use of combination therapies (β -blocker in combination with diuretic) would give a better control of arterial hypertension in the population and thereby further studies can be done to assess the reduction of cardiovascular/cerebrovascular morbidity and mortality caused by hypertension.

CHAPTER 1

INTRODUCTION

1.0 Introduction

The Joint National Committee (JNC VII) and the World Health Organization (WHO) in their most recently reports, recommend β -blockers and diuretics as first-line treatment for uncomplicated essential hypertension. These recommendations are made because β -blockers and diuretics are beliefs can reduced cardiovascular morbidity and mortality in high-risk hypertensive patients when using in monotherapy or in combination (Messerli, 2000).

Uncomplicated essential hypertension according to Pharmacotherapy Handbook (sixth edition) means that this type of hypertension is raised from an underlying pathophysiologic mechanism of unknown causes without any co-morbid disease. For that reason, employing of two antihypertensive agents with different mechanism of action can be done to increased blood pressure control (Eisan *et. al.*, 1950).