

# Analysis of the current status of *B*-blockers in diabetic patient

Chih-Wen Wu<sup>1</sup>, Ling-Mei Lee<sup>2</sup>, Jiing-Chyuan Luo<sup>2</sup>, Chin-Feng Lin<sup>2</sup>  
1. Department of Pharmacy, Keelung Hospital, Ministry of Health and Welfare  
2. Keelung Hospital, Ministry of Health and Welfare

## Background

The advantage (reducing cardiovascular risk) and disadvantage (masking hypoglycemia and causing severe hypoglycemia) of *B*-blockers in diabetic patients have been debated in the past. Based on the recent studies, diabetic patients were divided into insulin resistant and non-affected types. This study was designed to analyze the current status of type *B* blockers in diabetic patients according to this classification.

## Method:

This study included patients who used both *B*-blockers and hypoglycemic drugs during January and December in 2017, and it was separated the *B*-blockers into diabetic friendly (betaxolol, carvedilol, labetalol, DF group) and diabetes unfriendly (metoprolol, atenolol, propranolol, NDF group) conditions. Data analysis was performed in Excel to analyze the use of departments, indications, and the use of blood glucose drugs.

## Relevance to HPH

This study improves medication safety in patients with diabetes combined hypertension.

## Results:

This study included 679 patients, and 436 in DF group. The main departments in the DF and NDF groups were cardiology and endocrinology (77.5% and 74.1%). The Hypoglycemic drug items were NDF group  $2.10 \pm 0.97$  and DF group  $2.12 \pm 0.98$  ( $P=0.41$ ). In the indications, simple hypertension without other related diagnosis were used 35 in NDF group and 108 in DF group. For NDF group other diagnosis, there were 63 people with liver-related diseases, 31 with mental illness symptoms.

## Discussion:

It is reasonable to use *B*-blockers to decreased blood pressure in patients with diabetes and hypertension, but the choice should be based on betaxolol, carvedilol, labetalol, which is resistant or non-affected to blood sugar. However, there are still some indications in the clinic that are based on non-selective beta blockers. Based on the results of this study, about 50% of patients still have improvement.