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DETERMINATION OF PREVALENCE AND RISK FACTORS FOR HEART FAILURE WITH PRESERVED EJECTION FRACTION (HFPEF) IN TYPE 2 DIABETES MELLITUS

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Ahmad Firdaus Zakaria,¹ Syarifah Faradilla Syed Hatta,¹ Rohana Abdul Ghani,² Hafisyatul Aiza Zainal Abidin,² Zaliha Ismail²

¹Hospital UiTM, Puncak Alam, Selangor, Malaysia

²Pusat Perubatan, Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia

INTRODUCTION

Diabetes and heart failure are two major risk factors for morbidity and mortality that have reached epidemic proportions worldwide. The number of patients with heart failure with preserved ejection fraction appears to be increasing compared to those with heart failure with reduced ejection fraction, due to an increasing prevalence of metabolic diseases such as diabetes mellitus. However, the prevalence and risk factors are currently not well studied in our population. The aim of this study is to determine the prevalence and associated risk factors for HFpEF amongst patients with T2DM attending clinics in Hospital UiTM.

METHODOLOGY

We conducted a cross sectional study among patients with T2DM, age >18 years. Exclusion criteria were the presence of atrial fibrillation, ESRF and moderate to severe valvular heart disease between December 2021 until May 2022. Baseline demographic, anthropometric measurements, echocardiography and NTproBNP test were performed in compliance with the ESC 2019 guideline.

RESULTS

The study population (n=260) had a mean age of 61+5.4 years, median (IQR) duration of T2DM 10 years (14) and 56% (n=147) of them are on insulin. The prevalence of HFpEF was 22% (n=55). Multiple logistic regression analysis revealed that female sex (OR 2.764, CI, 1.49-5.1, $p=0.001$) duration of diabetes (OR 1.033, CI 1.002-1.066, $p=0.036$), higher waist circumference (OR 1.023, CI 1.001-1.046, $p=0.044$), insulin usage (OR 2.587, CI 1.349-4.96, $p=0.004$) and 3 or more antihypertensive medications (OR 2.014, CI 1.510-2.688, $p<0.001$) are predictors of HFpEF in this group of patients with T2DM.

CONCLUSION

The prevalence of HFpEF amongst patients with T2DM was high at 22%. The associated risk factors of HFpEF from our study include female gender, longer duration of diabetes, higher waist circumference, insulin usage and use of multiple antihypertensive drugs.