Diabetes, Metabolic Syndrome and Obesity

Dovepress
open access to scientific and medical research

Open Access Full Text Article

LETTER

Female is Associated with Left Ventricular Diastolic Dysfunction in Patients with Type 2 Diabetes [Letter]

Gayathri Ponath Sukumaran, Nisha Kurian, Neetha Mary Kurian, Roshna Rasheed

Department of Community Medicine, Pushpagiri Institute of Medical Sciences and Research Centre, Thiruvalla, Kerala, India

Correspondence: Neetha Mary Kurian, Department of Community Medicine, Pushpagiri Institute of Medical Sciences and Research Centre, Thiruvalla, Kerala, 689101, India, Tel +91 9995850027, Email gbemi14@gmail.com

Dear editor

Diabetes, the global pandemic that affects almost one in ten persons, is associated with an increased risk of cardiovascular complications.[1] Continued and chronic exposure of cardiac cells to elevated blood sugar results in structural cardiac changes, starting off as left ventricular diastolic dysfunction (LVDD). Although type 2 diabetes is more common in men, women with diabetes, and especially perimenopausal women who have an added risk due to lack of estrogen, have a higher risk of developing cardiovascular complications, particularly ones that progress towards cardiomyopathy and heart failure.[2]

In this context, the study by Wang et al titled "Female is Associated with Left Ventricular Diastolic Dysfunction in Patients with Type 2 Diabetes" published in the current issue of this journal is notable.[3] The authors should be commended for highlighting the importance of diagnosing diabetic cardiomyopathy as early as possible by screening diabetic patients for LVDD. Albeit the relevance of this study is unarguable, we would like to bring to your attention the need for a few clarifications.

The title of this study comes across as a little vague, and we believe rewording it to "gender variation in the prevalence of left ventricular diastolic dysfunction in patients with type 2 diabetes" would be a lot more indicative of the content of the study. Similarly, the phrase "association between sex differences" in the aim may be changed to: "to investigate gender variation in the prevalence of LVDD in patients with type 2 diabetes" for more clarity.

The other concern we have is regarding the rigour and veracity of the representation of statistical data. The researchers have described the exclusion criteria and the recruitment of the participants well but have not mentioned the sample size calculation. Also, the statistically significant differences, though very small or negligible, seen in the baseline characteristics (Table 1) such as body mass index, HbA1c, serum albumin, cholesterol values, etc., could potentially be statistical fallacies given the large sample size.

In Table 1, the proportion of LVDD in all age groups is given as 54.5% for females and 46.9% for males. However, the report on page 2360 shows the exact same gender-wise proportion for the age group of 45 to 60 years (also given in Figure 3). Neither the total number of participants nor the number of participants with LVDD in each of these age groups by sex is given, thus bringing the accuracy of these figures into question.

Finally, we would like to point out the redundancy of the information in Table 3 and Figure 2. This study, being cross-sectional, the use of hazard ratio (HR) in Tables 2 and 3 calls for clarification as well.

The study by Wang et al precisely identifies and responds to a gap in the research on gender variations in diabetic cardiomyopathy. However, we recommend more scientific rigour in the execution of the methodology and reporting of the major findings of this study so that the results can be generalized.

Received: 26 September 2023
Accepted: 4 October 2023
Published: 12 October 2023

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Facts & figures [Internet]. International Diabetes Federation; 2022. Available from: https://idf.org/about-diabetes/diabetes-facts-figures/. Accessed September 19, 2023.
2. Toedebusch R, Belenchia A, Pulakat L. Diabetic cardiomyopathy: impact of biological sex on disease development and molecular signatures. *Front Physiol*. 2018;3(9):453. PMID: 29773993; PMCID: PMC5943496. doi:10.3389/fphys.2018.00453
3. Wang Y, Zhou Y, Zhang Y, Ren Q, Wang Y, Su H. Female is associated with left ventricular diastolic dysfunction in patients with type 2 diabetes. *Diabetes Metab Syndr Obes*. 2023;16:2355–2364. doi:10.2147/DMSO.S421761

https://doi.org/10.2147/DMSO.S442055