Understanding the impact of **Obesity on Heart Failure with Preserved Ejection Fraction**(HFpEF)



Obesity is a progressive chronic disease, associated with over 200 complications. Amongst these complications, cardiovascular disease is the leading cause of mortality in people with obesity.

Obesity is one of the most common comorbidities of HFpEF but also one of the major risk factors for its development.³

- >1.9 billion people could be living with obesity by 2035⁴
- **>2/3** of deaths related to obesity can be attributed to cardiovascular disease.⁵

What is HFpEF?

HFpEF is a serious and chronic systemic disease defined as a type of heart failure in which the left ventricle ejection fraction is ≥50%. There is an increase in the stiffness of the left ventricle, which causes a decrease in left ventricular relaxation during diastole, resulting in increased pressure and/or impaired filling.⁶ The prevalence and **impact of HFpEF continues to rise** and it is projected to become the most common type of **heart failure**.⁷



Symptoms⁸



Mechanisms^ı



Signs

- · Shortness of breath
- · Decreased exercise tolerance
- · Weakness & fatigue
- Reduced cardiac output
- Elevated left ventricular pressures
- Raised jugular venous pressure
- Pulmonary crackles
- Peripheral oedema

64.3M

~50%

80%

People worldwide are affected by heart failure.9

Of heart failure cases are related to HFpEF.^{7,10}

Of people with HFpEF are living with overweight or obesity.¹¹

Understanding HFpEF as an unmet clinical need



Patients with HFpEF have significant disease burden and impaired quality of life, and have a high risk of morbidity and mortality.^{7,12}

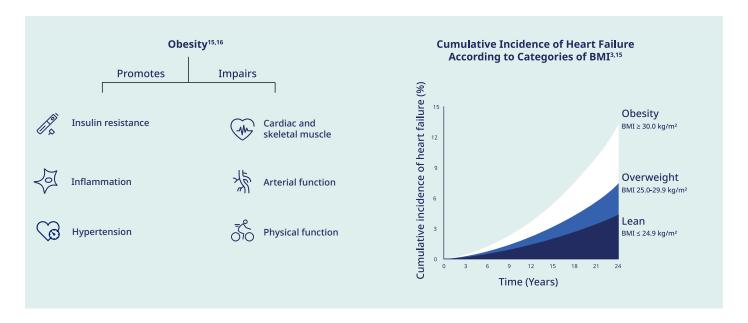


HFpEF is a heterogeneous disease often associated with multiple comorbidities, including obesity, hypertension and type 2 diabetes, which induce systemic inflammation.^{7,13,14}

Obesity as a major risk factor of HFpEF



Obesity is increasingly recognised as the root cause of HFpEF pathophysiology.^{11,15} Obesity is a strong predictor of decreased physical function, as it promotes increased inflammation while impairing cardiac function.^{10,15}



Multidisciplinary Approaches to Addressing Obesity and HFpEF Management

- Lifestyle interventions, including diet and exercise, leading to weight loss have shown benefits in patients with obesity phenotype of HFpEF¹⁶
- HFpEF clinical programmes with supporting personnel can serve to streamline the diagnosis, management, and follow–up of patients with HF¹⁷
- Management of patients with HFpEF focuses on improving symptoms, normalising heart function, and addressing cardiac and non-cardiac comorbidities, which may help improve outcomes¹⁸





Personalised treatment: A targeted approach could lead to net clinical benefit for all patients⁶

Rethink Obesity®

For more information on obesity and its relationship with cardiovascular disease, please visit – https://www.rethinkobesity.global/global/en/cvd.html



References: 1. Yuen M. ER, Kadambi N. A systematic review and evaluation of current evidence reveals 236 obesity-associated disorders. The obesity society 2016. 2. Khafagy R, Dash S. Obesity and cardiovascular disease: the emerging role of inflammation. Front Cardiovasc Med. 2021;8:768119. 3. Tadic M, Cuspidi C. Obesity and heart failure with preserved ejection fraction: a paradox or something else?. Heart Fail Rev. 2019;24(3):379-385. 4. World Obesity Federation. World Obesity Atlas 2023. https://data.worldobesity.org/publications/?cat=19. 5. Afshin A, Forouzanfar MH, Reitsma MB, Sur P, Estep K, Lee A, Marczak L, Mokdad AH, Moradi-Lakeh M, Naghavi M, et al; GBD 2015 Obesity Collaborators. Health effects of overweight and obesity in 195 countries over 25 years. N Engl J Med. 2017; 377:13–27. 6. Jasinska-Piadlo A, Campbell P. Management of patients with heart failure and preserved ejection fraction. Heart. 2023;109(11):874-883. 7. Oktay AA, Rich JD, Shah SJ. The emerging epidemic of heart failure with preserved ejection fraction. Curr Heart Fail Rep. 2013;10(4):401-410. 8. Kepińska K, Adamczak DM, Kałużna-Oleksy M. Advanced heart failure: a review. Adv Clin Exp Med. 2019;28(8):1143-1148. 9. Bragazzi NL, Zhong W, Shu J, et al. Burden of heart failure and underlying causes in 195 countries and territories from 1990 to 2017. Eur J Prev Cardiol. 2021;28(15):1682-1690. 10. Sharma K, Kass DA. Heart failure with preserved ejection fraction: mechanisms, clinical features, and therapies. Circ Res. 2014;115(1):79-96. 11. Haykowsky MJ, Nicklas BJ, Brubaker PH, et al. Regional adipose distribution and its relationship to Exercise Intolerance in older obese patients who have heart failure with preserved ejection fraction. JACC Heart Fail. 2018;6(8):640-649. 12. Chandra A, Vaduganathan M, Lewis EF, et al. Health-related quality of life in heart failure with preserved ejection fraction: The PARAGON-HF trial. JACC Heart Fail. 2019;7(10):862-874. 13. Shah SJ, Kitzman DW, Borlaug BA, et al. Phenotype-specific treatment of heart failure with preserved ejection fraction: a multiorgan roadmap. Circulation. 2016;134(1):73-90. 14. Paulus WJ, Tschöpe C. A novel paradigm for heart failure with preserved ejection fraction: comorbidities drive myocardial dysfunction and remodeling through coronary microvascular endothelial inflammation. J Am Coll Cardiol. 2013;62(4):263-271. 15. Kenchaiah S, Sesso HD, Gaziano JM. Body mass index and vigorous physical activity and the risk of heart failure among men. Circulation. 2009;119(1):44-52.15. 16. Kitzman DW, Shah SJ. The HFpEF obesity phenotype: the elephant in the room. J Am Coll Cardiol. 2016;68(2):200-203. 17. Gevaert AB, Kataria R, Zannad F, et al. Heart failure with preserved ejection fraction: recent concepts in diagnosis, mechanisms and management. Heart. 2022;108(17):1342-1350. 18. Heidenreich PA, Bozkurt B, Aguilar D, et al. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation, 2022;145(18):e895-e1032.