Introduction

Bariatric surgery represents a significant therapeutic option for individuals with severe obesity [1], offering substantial and sustainable weight loss outcomes alongside improvements in obesity-related comorbidities. However, the variability in weight loss outcomes among patients undergoing bariatric surgery remains a challenge, partly influenced by genetic factors. The Hereditary Gamble Score (HGS), a composite genetic risk score integrating multiple obesity-related genetic variants, has emerged as a tool to assess genetic predisposition to obesity and potentially predict treatment outcomes [2]. Obesity is a complex multifactorial condition influenced by genetic, environmental, and behavioral factors. Genetic studies have identified numerous variants associated with obesity susceptibility [3], impacting pathways involved in adiposity regulation, insulin sensitivity, lipid metabolism, and appetite control. The aggregation of these variants into an HGS provides a comprehensive measure of genetic predisposition to obesity.

Understanding the role of HGS in the context of bariatric surgery is crucial for advancing personalized medicine approaches in obesity management. Genetic predisposition may influence baseline obesity severity, metabolic characteristics, and responsiveness to surgical interventions. Exploring these genetic influences can help stratify patients based on their likelihood of achieving optimal weight loss and metabolic improvements post-surgery. Therefore [4], this study aims to investigate the association between HGS, obesity-related genetic traits, and weight loss outcomes following bariatric surgery. By examining the interplay between genetic factors and surgical outcomes, we seek

relationships can inform personalized treatment strategies and improve the e ectiveness of surgical interventions for obesity management.

Concl ion

In conclusion, this study underscores the signi cance of genetic factors, as represented by Hereditary Gamble Score (HGS), in in uencing weight loss outcomes following bariatric surgery. Our   ndings highlight the complex interplay between genetic predisposition to obesity and the e cacy of surgical interventions in achieving sustainable weight loss and metabolic improvements. Participants with higher HGS scores exhibited greater baseline obesity severity and variability in weight loss outcomes post-surgery.   is variability underscores the importance of personalized medicine approaches in obesity management, where genetic pro ling could potentially guide treatment decisions and improve patient outcomes.

  e integration of genetic information, such as HGS, into clinical practice holds promise for optimizing patient selection and tailoring surgical strategies to individual genetic pro les. By identifying patients at higher genetic risk for obesity or those likely to bene t most from surgical interventions, clinicians can enhance treatment e cacy and long-term success rates. Limitations of this study include the need for larger cohort studies with longer follow-up periods to validate our   ndings and assess the durability of weight loss outcomes. Additionally, further research is warranted to elucidate speci c genetic pathways and mechanisms underlying treatment response variability in bariatric surgery patients. In summary, the insights gained from this study contribute to advancing precision medicine in obesity management, paving the way for more personalized and e ective strategies that consider both genetic predisposition and clinical factors. Ultimately, integrating genetic data into clinical decision-making processes has the potential to improve patient outcomes and reduce the burden of severe obesity and its associated comorbidities.

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