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Clinical Obesity in the New Era: Evidence-Based Therapeutics and Improved Patient Outcomes

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Abstract

Obesity is a chronic, relapsing disease associated with significant morbidity, mortality, and rising healthcare costs. It represents one of the most urgent global health challenges of the 21st century. With the continued surge of obesity among children and adolescents, the burden in adulthood is projected to escalate further, fueling an epidemic of non-communicable diseases (NCDs) such as type 2 diabetes, cardiovascular disease, and cancer. Once regarded as a problem confined to Western nations, obesity is now rising sharply across the globe, including in South Asia and Bangladesh, where it threatens to derail public health progress.

Advances in our understanding of weight regulation and the gut-brain axis have paved the way for a new generation of safe and effective pharmacotherapies. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) such as semaglutide 2.4 mg once weekly, approved in 2021, deliver unprecedented results, achieving an average weight reduction of 15-17% by targeting appetite and satiety pathways. The dual incretin agent tirzepatide (GLP-1/GIP RA) has further expanded therapeutic possibilities, initially approved for type 2 diabetes and now established as an option for obesity care. Additional entero-pancreatic and non-entero-pancreatic hormone-based agents are under active investigation.

This emerging therapeutic landscape signals a paradigm shift: obesity management is shifting toward individualized treatment strategies, similar to those used in diabetes or dyslipidemia care. Treatment selection could be tailored not only to weight reduction goals but also to obesity-related complications. Ectopic fat accumulation drives organ-specific dysfunctions-including type 2 diabetes, metabolic dysfunction-associated steatotic liver disease (MASLD)/ metabolic dysfunction-associated steatohepatitis (MASH), and heart failure with preserved ejection fraction (HFpEF). Some agents, such as GLP-1/glucagon combinations, demonstrate weight-independent effects on liver fat reduction, suggesting opportunities for tailored therapy. Moreover, robust cardiovascular and renal outcome data are already available for several newer anti-obesity agents, reinforcing their potential to improve survival as well as quality of life.

The new era of obesity care is therefore defined not merely by greater weight loss, but by improved, patient-centered outcomes across metabolic, cardiovascular, hepatic, and renal domains. The challenge for clinicians is to translate this evidence into practice-ensuring equitable access, long-term adherence, and individualized therapeutic decisions to reduce the global burden of obesity and its complications.
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