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Back to the Future: From Bariatric Surgery to Pharmacotherapy in Obesity Management

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Obesity is a chronic, relapsing disease with a multifactorial etiology. It is associated with numerous comorbidities and complications, serving as a gateway to a broad spectrum of serious health conditions. Accordingly, therapeutic interventions targeting obesity may confer both prophylactic and disease-modifying effects across its associated comorbidity spectrum (1).

Behavioral modification remains the cornerstone of obesity management, as consistently emphasized by national and international guidelines (1-5). In addition to structured nutritional therapy and physical activity interventions, strategies targeting stress reduction and sleep optimization are also recommended (1). Furthermore, the incorporation of psychological support from the outset, tailored to all patients, is recognized as a critical component of comprehensive care (4).

In addition to behavioral modifications, pharmacotherapy and bariatric/metabolic surgery are implemented when clinically indicated. Historically, bariatric surgery has been regarded as the most effective intervention compared with pharmacological treatments and has typically been reserved as a later-line option when behavioral and medical therapies failed to achieve sufficient outcomes (6,7). However, with the recent introduction of novel obesity management medications (OMMs), this paradigm has shifted. Surgery is no longer uniformly considered the final or most effective step in obesity management, and pharmacotherapy has re-emerged as a central component in the treatment algorithm.

Although bariatric surgery appears to demonstrate superior long-term efficacy compared with OMMs, short-term outcomes with OMMs are increasingly reported to be comparable (8). Given the invasive nature of surgical interventions and their potential for serious adverse effects, it may be more appropriate to reserve bariatric surgery for patients at the upper extreme of stage 3 obesity, particularly those who have not responded adequately to other therapeutic options and who are already at a markedly elevated clinical risk.

Currently; orlistat, liraglutide, semaglutide and tirzepatide are available in Türkiye for the management of obesity (9). Orlistat, a gastric and pancreatic lipase inhibitor, is administered orally, whereas liraglutide and semaglutide—both GLP-1 receptor agonists—and tirzepatide, a dual GIP/GLP-1 receptor agonist, are administered as injectable therapies (10).

Beyond inducing substantial weight loss—up to approximately 25% with injectable agents (mean −20.2% for tirzepatide and −13.7% for semaglutide) (11)—these medications also provide clinically meaningful benefits for a range of obesity-related comorbidities. These include the prevention and treatment of prediabetes, metabolic syndrome, and type 2 diabetes, as well as broader cardiometabolic effects, such as reduction in major adverse cardiovascular events, improvement in chronic kidney disease, lowering of blood pressure, benefits in heart failure with preserved ejection fraction, and improvement in metabolic dysfunction–associated steatohepatitis. Additionally, they confer biomechanical benefits, including improvement in obstructive sleep apnea and osteoarthritis (12).

Thus, it would be fair to say that we are, in a sense, “back to the future” with respect to the use of pharmacotherapy for obesity. With the anticipated arrival of triple agonists and oral GLP-1–based agents, treatment strategies in obesity management are likely to undergo substantial transformation.

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