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## Multiple new therapeutic options for the treatment of obesity

I read with great interest the letter to the editor entitled “Semaglutide as a chance for obesity treatment” by Giordano U et al. [1]. Indeed, obesity is a major public health threat in many countries and a significant medical problem for many people. As such, it urgently calls for development of new and effective methods of treatment, especially pharmacological ones. Semaglutide is undoubtedly one of them, but not the only one, as it might be inferred after reading the mentioned letter. Liraglutide is another glucagon-like peptide-1 receptor agonist (GLP-1 receptor agonist) that has also been shown to be very effective in reducing obesity [2]. Attention should also be paid to drugs with other mechanisms of action, such as orlistat or naltrexone-bupropion [3]. Orlistat has mainly a peripheral effect, it inhibits gastric and pancreatic lipases, thus decreasing dietary fat absorption [4]. Naltrexone (opioid receptor antagonist that inhibits the proopiomelanocortin — POMC pathway inhibitor) and bupropion (antidepressant, norepinephrine and dopamine reuptake inhibitor directly stimulating the POMC cells) work synergistically to increase the POMC peptide production, and therefore decrease food intake [5]. Tirzepatide is another particularly interesting therapeutic option. It is a peptide engineered from the native gastric inhibitory polypeptide (GIP) sequence, with agonist activity at both the GIP and GLP-1 receptors. GIP activation acts synergistically with GLP-1 receptor activation to allow greater weight reduction than that achieved with GLP-1 receptor agonists alone [6]. Multiple other agents intended for the treatment of obesity are currently under investigation for their safety and effectiveness, but it is important to remember about drugs that, in addition to their main indications, also contribute to weight loss. Among them,

sodium/glucose cotransporter2 (SGLT2) inhibitors deserve special attention, especially dapagliflozin and empagliflozin [7–9]. However, regardless of the drug used, long-term adherence to treatment plays a key role in the final success [10–14]. Many studies unanimously point to discontinuation of therapy as the main cause of clinical failure [15–20]. Therefore, regardless of the availability of increasingly effective drugs, the role of patient education cannot be overstated [21–24].

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