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**Flare of Knee Osteoarthritis Triggering Weight Regain Despite Semaglutide Therapy:
A Case Report**

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Introduction:

Obesity is a chronic, multifactorial disease associated with significant metabolic and mechanical complications, including osteoarthritis (OA). Weight reduction of 10–15% has been shown to improve symptoms of obesity-related comorbidities such as knee OA. Pharmacological therapy including GLP-1 receptor agonists has become an important adjunct in obesity management. This case highlights the interaction between weight-loss therapy and OA exacerbation in a patient with severe obesity.

Methods:

We present a case of a 55-year-old man with class III obesity (BMI 63.7 kg/m²) with associated right knee osteoarthritis, hypertension, and obstructive sleep apnoea at the weight management clinic. He played rugby in his 20s and suffered multiple knee injuries previously. This led to a sedentary lifestyle with weight gain together with knee OA. At baseline, his weight was 199 kg. He was initiated on subcutaneous semaglutide in February 2025 together with personalised exercise programme to accommodate his OA. He demonstrated good adherence to maximum dose semaglutide without side effects.

Results:

The patient achieved a 13kg weight reduction (186kg, BMI 60 kg/m²) after 5 months. However, in September 2025, he experienced a flare of right knee osteoarthritis that significantly reduced his mobility. During this period of functional decline, his weight increased to 188 kg and subsequently to 193 kg by December 2025. He still continued semaglutide injections during this period.

Conclusion:

The patient's initial weight loss on semaglutide demonstrates the effectiveness of GLP-1 receptor agonists. However, the subsequent OA exacerbation resulted in reduced mobility and physical activity, contributing to partial weight regain. This case demonstrates the relationship between OA and obesity, where joint pain limits physical activity and impedes weight-loss efforts despite optimal pharmacotherapy.