

## Weight loss in a Diabetic Patient: Beyond Metformin Side Effects

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### ABSTRACT

Although metformin is widely used in treatment of type 2 diabetes mellitus (T2DM), it frequently causes gastrointestinal side effects. We presented the case of a 64-year-old man with newly diagnosed T2DM who developed nausea, anorexia, and significant weight loss initially attributed to metformin. Despite dose reduction, weight loss progressed and a large abdominal mass was detected, later diagnosed as low-grade pancreatic acinar cell carcinoma. Since pancreatic tumors may initially present with newly diagnosed or worsening diabetes, particularly with marked weight loss, clinicians should maintain a high index of suspicion in atypical cases to avoid delayed diagnosis.

**Keywords:** Type 2 Diabetes Mellitus, Metformin, Weight Loss, Pancreatic Carcinoma

### Introduction

Type 2 diabetes mellitus (T2DM) is increasingly prevalent worldwide, with over 800 million cases estimated globally. Concerning his treatment, metformin remains a cornerstone in T2DM management, often associated with gastrointestinal (GI) side effects such as nausea, abdominal pain, and diarrhea. Regarding weight loss, metformin has a neutral effect (potential for modest loss).

### Case Report

We present the case of a 64-year-old male with cardiovascular risk factors and a recent diagnosis of T2DM. Lifestyle modification and metformin 850 mg twice a day were initiated. After three months, he reported a 4 kg weight loss, nausea, anorexia, and epigastric discomfort, which were attributed to metformin. The dose of metformin was reduced by half, with partial symptom relief. However, progressive weight loss continued, reaching 12 kg over eight months. On examination, a non-tender, palpable mass (~10 cm) was noted in the epigastric/left hypochondrium regions.

An urgent CT scan revealed a large intra-abdominal mass, suspicious for sarcoma or gastrointestinal stromal tumor (GIST). After hospital referral, biopsy confirmed low-grade pancreatic acinar cell carcinoma. The patient underwent surgical resection and chemotherapy and remains under oncological surveillance.

### Discussion

In this clinical case, the gastrointestinal effects of metformin hindered the early detection of pancreatic cancer. In patients with pancreatic cancer, up to 2/3 will have diabetes at the time of cancer diagnosis, including approximately 25% with new onset diabetes (NOD). The early detection of pancreatic ductal adenocarcinoma (PDAC) is a priority to improve survival. In the case of pancreatic cancer, a delay is potentially lethal. Since <1% of adults with NOD are found to have PDAC, the discrimination of diabetes caused by PDAC from T2D is challenging. Some factors may increase the likelihood that diabetes is secondary to pancreatic cancer, including a sudden onset or a significant worsening of pre-existing diabetes, a severe weight loss, a poor response to pharmacological therapy, and an early requirement for insulin.

### Ethics

Informed Consent was obtained.

### Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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**Conclusion**

For general practitioners, maintaining a high index of suspicion in atypical presentations of T2DM is crucial. Earlier identification of pancreatic malignancy can significantly impact prognosis.

**References**

1. World Health Organization. Diabetes. Geneva: WHO. Citado em set 6. Disponível em. 2025. <https://www.who.int/news-room/fact-sheets/detail/diabetes>
2. Statista. Share of adults with diabetes, by world region. Citado em set 6. Disponível em 2025. <https://www.statista.com/chart/23491/share-of-adults-withdiabetes-world-region/>
3. European Society of Cardiology (ESC). CVD and Diabetes Guidelines. Citado em set 6. Disponível em. 2025. <https://www.escardio.org/Guidelines/ClinicalPractice-Guidelines/CVD-and-Diabetes-Guidelines>
4. National Cancer Institute (NCI). Pancreatic cancer–diabetes early detection. Cancer Currents; 2021. Citado em set 6. Disponível em. 2025. <https://www.cancer.gov/news-events/cancer-currents-blog/2021/pancreaticcancer-diabetes-early-detection>
5. Phil A Hart, Dana K Andersen, Maxim S Petrov, Mark O Goodarzi. Distinguishing Diabetes Secondary to Pancreatic Diseases from Type 2 Diabetes Mellitus. In: PubMed. Citado em set 6. Disponível em. 2025. <https://pubmed.ncbi.nlm.nih.gov/articles/PMC8364493/>
6. UpToDate. Metformin: Drug Information. Citado em 2025 set 6. 2025.
7. American Diabetes Association Professional Practice Committee. Standards of Care in Diabetes-2025. Diabetes Care. Citado em 2025 set 6. 2025. 48: S351-S352.