

CLINICAL IMAGE

Lipodystrophy: Still an underdiagnosed complication of subcutaneous insulin administration

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Abstract

Lipodystrophy is a common but often underdiagnosed complication of subcutaneous insulin injections. We present an illustrative case, aiming to remind physicians to consider lipodystrophy when evaluating a patient under insulin therapy with otherwise unexplained metabolic decompensation. A complete physical examination and patient education are crucial in this setting.

KEYWORDS

diabetes mellitus, diagnosis, insulin, lipodystrophy

1 | CASE REPORT

We report a 75-year-old female patient diagnosed with type 2 diabetes 49 years ago, who has been on insulin therapy for 15 years and had poor glycemic control. She denied weight fluctuations or recent infections and ensured medication compliance. However, despite an intensive basal-bolus insulin regimen (total daily dose 86 units; weight 78.9 kg), her glycated hemoglobin was 11.8%. On physical examination, we observed mild visceral obesity with two infra-umbilical abdominal lumps about 5 cm in diameter each (Figure 1A,B). The patient reported that she was injecting insulin repeatedly in those abdominal swollen

locations because it was painless. She had developed lipodystrophy, a common but frequently undiagnosed complication of subcutaneous insulin administration.¹ Insulin absorption into lipodystrophied locations may be delayed and erratic, worsening glycemic control and causing unacceptable glucose oscillations with a high risk of unpredictable serious hypoglycemic episodes.^{1,2} An annual examination of injection sites is recommended to identify these lesions and act accordingly.² After reviewing the correct insulin administration technique with adequate rotation of injection sites and frequent needle substitution,¹ the patient achieved significant glycemic improvement (HbA1c 7.2% one year later).

Mariana Barbosa and Ana Sara Silva contributed equally (co-first authors).

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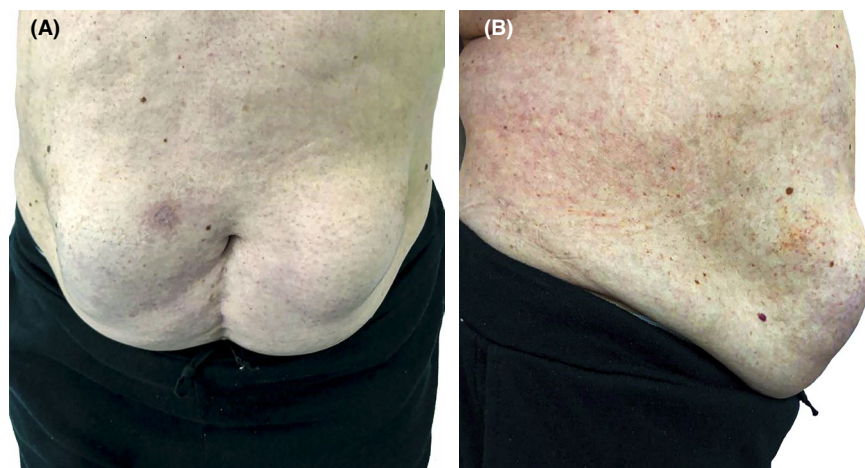


FIGURE 1 A frontal (A) and a lateral (B) view pictures showing insulin induced lipodystrophy in a 75-year-old female patient with type 2 diabetes

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None/not applicable.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

AUTHOR CONTRIBUTIONS

Image collection was performed by Vera Fernandes. Clinical data collection was done by Mariana Barbosa and Ana Sara Silva. Review of the literature was performed by all authors. All authors commented on previous versions of the manuscript, read and approved the final manuscript. Mariana Barbosa and Ana Sara Silva contributed equally, being co-first authors.

ETHICS APPROVAL

All procedures were followed in accordance with the responsible committee on human experimentation and with the Helsinki Declaration of 1975 and subsequent revisions. The study was approved by the Ethics Committee of Braga Hospital.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

DATA AVAILABILITY STATEMENT

Not applicable.

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