

INDIVIDUALIZED USE OF INTRAMUSCULAR LEVOTHYROXINE IN REFRACTORY HYPOTHYROIDISM: CASE REPORT

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BACKGROUND AND IMPORTANCE



Oral levothyroxine is the **standard treatment** for hypothyroidism. Some patients present **refractory disease** despite high oral doses. **Intramuscular (IM)** administration of levothyroxine → therapeutic alternative, limited evidence

AIM AND OBJECTIVES

To describe the clinical course of a 31-year-old woman with **hypothyroidism** (Graves' disease) **refractory** to high oral doses of **levothyroxine** previously treated with iodine-131.

MATERIALS AND METHODS

ANALYTICAL TESTS (Treatment with oral levothyroxine (>1000 µg/week) adequate adherence and administration technique)

TSH >200 mU/L
FT4 >100% after administration of 900 µg orally.

Administration of **400 µg OF INTRAVENOUS LEVOTHYROXINE** → significant clinical improvement
It was decided to start treatment with IM levothyroxine, with clinical and biochemical monitoring every 6-8 weeks.

RESULTS

Start of treatment: June 2024

Initial dosage: 200 µg/week of IM levothyroxine.



DOSAGE (µg/week) based on symptoms and biochemical findings				
250	375	500	650	800

SYMPTOMS: The patient reported substantial improvement in energy, mood, and functional capacity.

BIOCHEMICAL FINDINGS:

Fecha	18/06/2024	04/10/2024	31/01/2025	25/08/2025
TSH	192.98	127	23	17
FT4	0,3	0.54	0.88	1

The treatment was well tolerated, with no adverse reactions observed. Adherence was excellent, supervised by healthcare professionals and family members.

CONCLUSION AND RELEVANCE

- Weekly IM levothyroxine successfully stabilized thyroid function and improved clinical status
- Although not included in current clinical guidelines, this approach may serve as a valuable option in selected cases.
- Further studies are required to establish long-term safety, efficacy, and standardized treatment protocols.

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