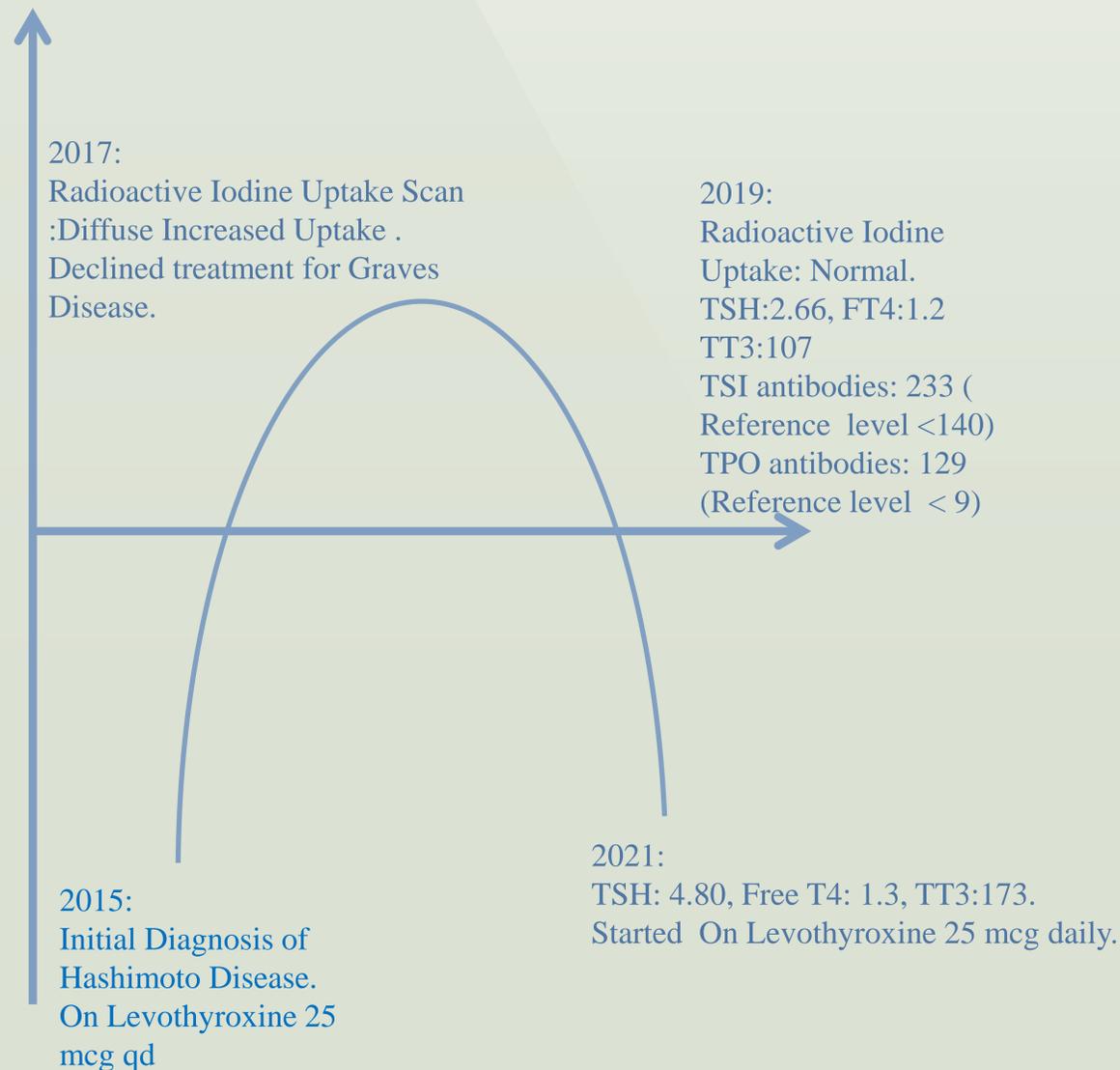


## INTRODUCTION

- Graves' disease: hyperthyroidism due to stimulating antibodies (TSI, TRAB)
- Hashimoto's: the most common cause of hypothyroidism due to chronic lymphocytic infiltration in thyroid by antibodies against thyroid peroxidase (anti-TPO) and thyroglobulin (anti-Tg).
- Concurrence of them in one patient is rare, which becomes challenging for clinicians to manage thyroid function.

### Hyperthyroidism



### Hypothyroidism

## CASE DESCRIPTION

- 25-year-old Female
- 2015: Initially diagnosed with hypothyroidism due to Hashimoto thyroiditis . On Levothyroxine 25 mcg for about a year.
- 2017: Eventually she developed hyperthyroidism despite being off the treatment for two years.
- Diagnosed with Graves' disease based on
  - High titers of TSI antibodies.
  - Radioactive Iodine uptake scan showed diffuse increased uptake(4-hour uptake: 86%, normal range:8-23%, 24 hours uptake: 94% normal range:15-35%)
  - Thyroid US showed a 18 mm solid hypoechoic thyroid nodule. ( no hot nodule on uptake scan)
- Lost follow up 2017-2019: Refused medical therapy with MMI or RAI ablation
- 2019: Subclinical hyperthyroidism
  - suppressed TSH (<0.01)
  - normal free T4(1.6) and TT3 (163).
  - high titers for both antibodies :TSI for Graves, TPO for Hashimoto
  - repeat thyroid uptake scan showed normal radioactive iodine uptake.
  - FNA of thyroid nodule showed Bethesda category II (benign).
- 2020-2021:Her thyroid function was monitored every 2-3 months without any treatment.
- Eventually transitioned from subclinical hyperthyroidism to euthyroid and finally overt symptomatic hypothyroidism with hair loss, fatigue and weight gain in a span of one year.
- 2021:She was appropriately started on thyroid replacement therapy.

## CASE DISCUSSION

- Patient has Both Grave's and Hoshimoto disease --fluctuating thyroid function from hypothyroidism to hyperthyroidism, and eventually again hypothyroidism
- She did not require usual treatment for Grave's disease like MMI or RAI therapy but transitioned to hypothyroidism in few years.
- Eventually required thyroxine replacement in a span of five years.
- Due to the natural history of these two diseases (stimulation of thyroxine production vs chronic infiltration of gland), patients' thyroid function is fluctuating and very difficult to predict or manage.
- We recommend to check titers for both the diseases (TSI /TRAB and anti-TPO/anti-Tg) in cases with brittle and fluctuating TFT to avoid the misdiagnosis and subsequent inappropriate management.

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