A Typical Grave’s
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Graves disease is an autoimmune disorder of the thyroid gland. It is a very rare condition that a Graves patient presents with spontaneous hypothyroidism as a natural course of the disease. Hypothyroidism during the course of Graves disease occurs commonly due to radio-iodine (RAI) therapy, thyroidectomy or anti-thyroid drug (ATD) treatment.

**Presentation**
- A 44 years old male heavy smoker diagnosed with Graves disease with typical clinical manifestations of Graves disease at age of 34 years.
- His clinical course was characterized with remissions and relapses after discontinuation of ATD.
- He had mild to moderate Graves ophthalmopathy at the time of diagnosis along with dermopathy, which remitted after topical corticosteroids.
- Exacerbation of ophthalmopathy requiring rescue pulse methylprednisolone.
- During the course of treatment the patient started gaining weight, feels fatigued and cold intolerance, labs revealed high TSH above 200 milli IU/L and T4 of 2 milli IU/L, ATD was discontinued and started on thyroxine with gradual escalation to present dose of 200 mcg.

**Examination**
- Bilateral proptosis.
- No palpable goiter.
- Moderate Graves ophthalmopathy.
- Graves dermopathy.

**Picture 1: graves ophthalmopathy**

**Biochemistry**

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<th>Table 1: initial TSH and Abs off ATD</th>
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<tr>
<td>TSH</td>
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<td>0.01 milli IU/L (0.4-4.2)</td>
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<th>Table 2: latest TSH and Abs on thyroxine 200mcg</th>
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<td>TSH</td>
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**Discussion**
- Few reports have identified blocking thyrotropin receptor antibodies (TSHR Abs) as a pathogenic mechanism explaining spontaneous hypothyroidism after anti-thyroid drug (ATD) treatment of Graves' disease.
- The difference in the course of blocking TSHR Ab was associated with the difference in epitope reactivities of TRAb during hypothyroid phase that developed after ATD.

**Conclusion**
- This case highlights the importance of spontaneous development of hypothyroidism in hyperthyroid graves. Hyper- and hypothyroidism occur depending on the predominant antibody during that period. Switching between stimulating and blocking antibodies. Thioamides have been associated with decreased levels of stimulating-TRAb, allowing blocking-TRAb to dominate. Nonetheless, the switch from one end of the spectrum to the other remains difficult to predict.

**References:**
- The Journal of Clinical Endocrinology & Metabolism, Volume 64, Issue 4, 1 April 1987, Pages 718–722.

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