OBJECTIVE: To describe a rare clinical event of a neonate with severe Graves hyperthyroidism, born to a mother with autoimmune hypothyroidism.

Results:

The baby’s thyroid function on day 3 demonstrated gross thyrotoxicosis, TSH<0.01 mU/l (NR day 3 <10 mU/l), FT4 >77 pmol/L (20-35) and FT3 15.4 pmol/L. TRab was elevated at 18.4 IU/l (<1.8).

The mother’s TRab was high at 24.7 IU/L. The baby was commenced on propranolol on day 7, with some symptomatic improvement, however thyroid hormones continued to rise. After endocrine consultation, on day 17 carbimazole (CBZ) was commenced, at 0.3 mg/kg/day. Thyroid function normalized within ten days, CBZ was gradually tapered and medication was weaned by 7 weeks.

He has remained euthyroid. His mother continues to require replacement thyroxine.

Conclusion:

- We hypothesize that the mother initially had Hashimoto’s thyroiditis which damaged the thyroid to the extent that later Trab positive Graves disease was unable to elicit thyrotoxicosis.
- Rare cases of de novo development of TSH stimulating antibodies are described in patients on levothyroxine and might be an alternate explanation for our case.
- However, almost all infants reported with neonatal thyrotoxicosis were either de novo or associated with maternal history of active or treated Graves disease.
- Our findings have important implications for future follow up of this family and for management of future pregnancies.