

Rare Case of Severe Hyperthyroidism due to Grave's Disease in a Female Toddler



Parissa Salemi D.O
Assistant Professor
Division of Pediatric Endocrinology
Department of Pediatrics
Cohen Children's Medical Center of Northwell Health
New Hyde Park, New York

Background: Hyperthyroidism due to Grave's disease (GD) in children has a peak incidence between 10-15 years of age. It is a rare but serious disorder that if uncontrolled can have serious adverse outcomes on growth and development as well as health. The incidence of GD is believed to be between 0.1 and 3 per 100,000 children in the general population with a prevalence of 1/10,000 children in the US. GD is rare under the age of 5 years.

Objective and hypotheses: To determine the etiology of a 2 yr old female presenting to the ER with 1 day history of fever and lip swelling, as well as diarrhea, emesis, throat pain, and tachycardia. Hyperactivity, difficulty sleeping and tremors had been noted more recently. Parent noted a "lump" the size of a golf ball appeared suddenly. Goiter appreciated on exam measuring 8 cm across and 5 cm vertically. I believed this to be acute, subacute, or autoimmune hyperthyroidism- Hashitoxicosis vs. Grave's disease.

Method: To obtain thyroid function tests, thyroid antibodies, ESR and thyroid ultrasound and follow serial tft's longitudinally.

Results: TSH=0.005uU/ml, FT4=>7.77ng/dl(nl <1.6), TT3=651ng/dl(High), TT4=27.2ug/dl(4.5-12.0), TGAB<20iu/ml, TPO AB=<6iu/ml, TSI=252(nl<140), ESR=6(0-32). Thyroid Ultrasound revealed enlarged thyroid gland bilaterally. Patient started on atenolol for symptom control and methimazole initially at 2.5 mg qd with peak dosing of 7.5 mg qd, with improving thyroid hormone values, however still remaining hyperthyroid until after 7 months of treatment, when she became euthyroid.

Conclusion: Given severe protracted hyperthyroidism and highly positive TSI antibodies, patient diagnosed with autoimmune Grave's hyperthyroidism. To my knowledge, this is the youngest documented case of a female toddler with such severe autoimmune hyperthyroidism.

References:

Bauer, Andrew J., *Approach to the Pediatric Patient with Grave's Disease: When definitive therapy is warranted?*, JCEM July 2013.