



## Neonatal Grave's disease: a caution while treating

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Dear Editor,

The article by Kurtoğlu S et al. in the current issue of Turkish Archives of Pediatrics made for an interesting read (1). In an excellent and timely review, the authors provided a detailed description of symptomatology as well as the effective treatment strategies for fetal and neonatal hyperthyroidism (1). However, we wish to bring out a missing point in the review related to an uncommon complication that may occur during the treatment of neonatal Graves' disease. The treating physician needs be cautious of this life-threatening complication, which may occur after initiating anti-thyroid drugs in the neonate.

The hyperthyroid state is associated with bone demineralization resulting in decreased bone mineral density. Severe cases may present with osteoporosis and pathologic fractures (2). The initiation of anti-thyroid drugs may lead to excessive bone remineralization resulting in hungry bone syndrome (HBS), characterized by hypocalcemia, hypophosphatemia, and hypomagnesemia (3). Severe hypocalcemia due to HBS may manifest as laryngospasm, tetany, and cardiac dysfunction (3, 4). This condition is relatively common in adults and may occur within hours to months following medical or surgical therapy of hyperthyroidism (3, 6). Its occurrence in children is rare, probably because a long untreated hyperthyroid state is unusual in children due to early recognition owing to the presence of certain symptoms such as height acceleration, and more commonly associated ophthalmopathy as compared with adults. In infants, hyperthyroidism is often transient and may not have produced much demineralization before initiation of therapy.

An early recognition of HBS following anti-thyroid therapy and prompt institution of therapy is crucial for a

successful outcome (3, 4). For acute management, high-dose calcium infusion is given until serum calcium normalizes and symptoms resolve (4, 5). Oral mineral supplementation may have to be continued for prolonged periods in some cases (5).

In conclusion, while treating a neonate with Graves' disease, the physician should remain alert to the occurrence of HBS after starting anti-thyroid drugs for a timely recognition and management of life-threatening hypocalcemia.

### References

1. Kurtoğlu S, Özdemir A. Fetal neonatal hyperthyroidism: diagnostic and therapeutic approachment. Turk Pediatri Ars 2017; 52: 1-9. [CrossRef]
2. Sarezyk MD, Corwin DJ, Harrison VS, Jacobstein C. Hyperthyroidism presenting with pathologic fractures. Pediatrics 2016; 137: e20150169. [CrossRef]
3. Grieff M. The hungry bone syndrome after medical treatment of thyrotoxicosis. Ann Intern Med 2003; 139: 706-7. [CrossRef]
4. Kansra S, Devidayal, Suri D, Singh M. Hypocalcaemia following therapy of thyrotoxicosis in an infant. Acta Paediatr 2006; 95: 375-7. [CrossRef]
5. See AC, Soo KC. Hypocalcaemia following thyroidectomy for thyrotoxicosis. Br J Surg 1997; 84: 95-7. [CrossRef]
6. De Ronde W, ten Have SM, van Daele PL, Feelders RA, vander Lely AJ. "Hungry bone" syndrome characterized by prolonged symptomatic hypocalcemia as a complication of treatment for hyperthyroidism. Ned Tijdschr Geneesk 2004; 148: 231-4.

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I have read the response given to our article. I thank them for adding an issue that we did not mention in our review. I think that it is a helpful letter in terms

of emphasizing that physicians should keep in mind that hypocalcemia may develop during the treatment of hyperthyroidism.

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