

Neonatal Graves-Basedow disease due to long-standing TRAb persistence following total thyroidectomy

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Abstract

Background: Neonatal Graves-Basedow disease is a rare and transient complication due to mother's Basedow disease, occurring extremely rare due to Hashimoto thyroiditis or as a persistent hyperthyroidism due to activating mutations of the Thyroid-Stimulating Hormone (TSH) receptor. It may cause goiter and hyperthyroidism in the neonate, prematurity or fetal death, in some cases needing therapy and pre-conception counseling.

Case presentation: We report the case of a premature newborn from a mother who underwent total thyroidectomy for Basedow disease 7 years before conception, euthyroid before and during pregnancy on levothyroxine therapy. The mother was not checked for antibodies against thyroid stimulating hormone (TSH) receptor (TRAb) persistence before pregnancy. Despite response to anti-thyroid therapy, hyperthyroidism, cardiac congenital disease and prematurity complicated the evolution of the newborn, leading to death in the 27th day of life.

Conclusion: The case is interesting due to long-standing persistence of TRAb after total thyroidectomy and the severe impact of hyperthyroidism in the fetus and neonate, despite low circulating levels of TRAb in mother which point out that other microenvironmental and/or genetic factors might be involved in the dramatic demise of the neonate. Fertile-aged women should be counseled.

Key words: Neonatal Graves-Basedow disease, neonatal hyperthyroidism, TSH receptor mutations/polymorphisms, pre-conception counseling

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