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June 9-10-11, 2019
Venice, Palazzo del Cinema

ICCN CONGRESS 2019

POSTER PRESENTATION ABSTRACT BOOK



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TOPIC: Miscellaneous - Other

ABSTRACT ID: 67

TITLE: TRANSIENT CONGENITAL HYPOTHYROIDISM IN PRETERM AND FULL-TERM INFANTS

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CONTENT:

Lowering the TSH cut-off value on neonatal screening resulted with detection of an increased number of children with neonatal hypothyroidism; both transient forms but also cases with evolution to mild permanent thyroid dysfunction later in life. Transient hypothyroidism (TCH) can be due to factors primarily affecting the thyroid-like iodine deficiency or excess, maternal thyroid-stimulating hormone receptor antibodies, maternal use of antithyroid drugs or DUOX2 (dual oxidase 2) mutations. On the other side, the constantly growing number of preterm infants presents a separate group of children with common transient fluctuations in thyroid function and controversy regarding the treatment strategy.

We retrospectively evaluated the cases of transient hypothyroidism among the term and preterm newborns diagnosed through the national neonatal screening program in Macedonia in the period 2002-2015. TSH cut-off screening was 10mU/L. Permanent hypothyroidism was defined as a requirement for thyroxine beyond 3 years of age.

Out of 127 cases diagnosed with primary CH over 12-year period, 30.5% had transient form. 12.1% were premature infants (28-37GA). There was no significant difference between occurrence of TCH in preterm and term infants ($p=0.397$), as well as biochemical characteristics of the hypothyroidism. 24.1% of the cases with TCH had serum TSH >20 mU/L at diagnosis. 75% of the cases exhibited normal gland at thyroid ultrasound; 15% had enlarged gland, and 10% had hypoplastic. There was no significant difference in the thyroid morphology between the preterm and term infants with TCH. Urinary iodide excretion examined in mutation-negative cases did not show iodine deficiency (range 124-346ug/L). DUOX2 genetic analysis was performed in 60% of the TCH cases; 2 pathogenic mutations were identified (c.4637A $>$ G and c.4318G $>$ A). Initial levothyroxine dose of 8.47 μ g/kg and 3.05 μ g/kg dose at age of 1-year were determined as early predictors for transient hypothyroidism; sensitivity of 91.1% and 84.8%, specificity 70.5% and 93.9%; AUC: 0.858 and 0.891, respectively. No significant difference in thyroxine dose and duration of treatment was observed between the groups of preterm and term infants.

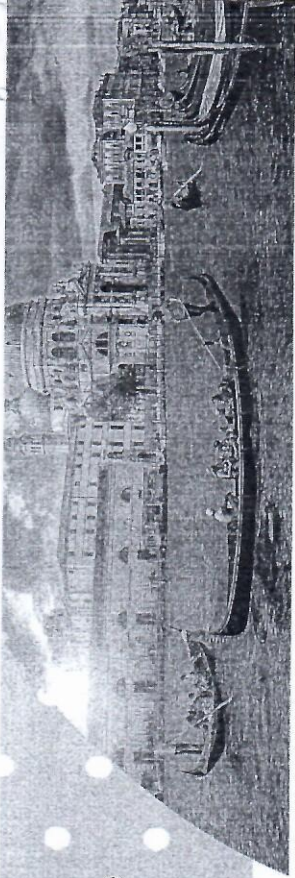
Transient hypothyroidism presents a significant portion of patients with congenital hypothyroidism affecting both preterm and term infants. The underlying etiology in most cases is not identifiable. Early levothyroxine requirements may have a predictive role in differentiating from permanent from.



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TRANSIENT CONGENITAL HYPOTHYROIDISM IN PRETERM AND FULL-TERM INFANTS

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