



USEFULNESS OF SECOND SCREENING STRATEGY FOR CONGENITAL HYPOTHYROIDISM IN LBW NEONATES

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INTRODUCTION

- Thyroid function in preterm infants is often altered for various reasons. LBW or VLBW newborns frequently present a particular form of congenital hypothyroidism (CH) characterized by low FT4 and delayed TSH elevation.
- The incidence of this disease is 1:250 for VLBW babies and 1:1589 for LBW newborns.
- Neonatal screening based solely on TSH can miss the diagnosis, therefore some screening programs have proposed to repeat the screening test 2 weeks after the first screening in preterm and/or LBW neonates.
- In the literature there is disagreement about whether or not the retesting is necessary.

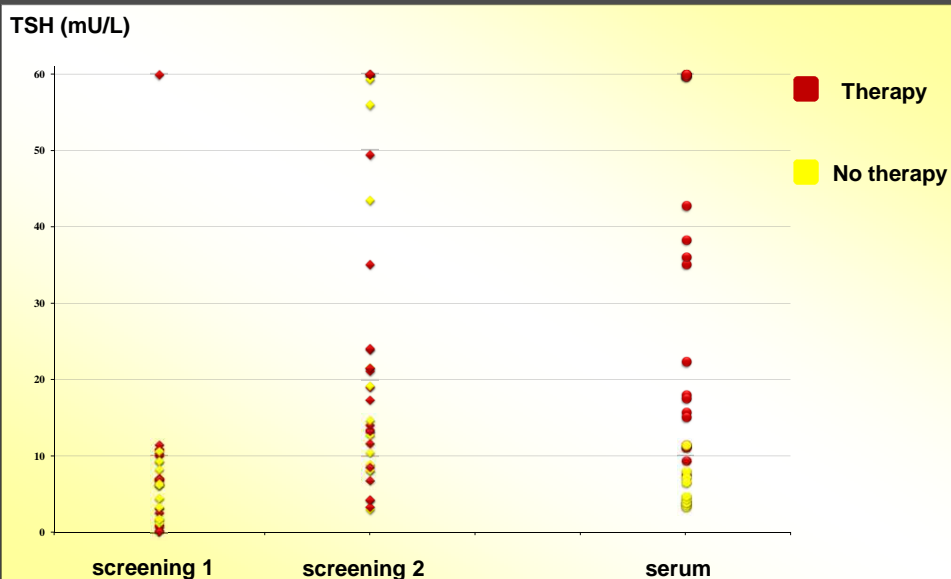
AIMS OF THE STUDY

- To calculate the incidence of CH with delayed TSH elevation in North-Eastern Italy;
- To evaluate the need for a second screening strategy in LBW neonates.

DESIGN

- Since 2010, we have used in neonatal screening for CH a second screening strategy for newborns with birth weight less than 2500 g.
- First screening TSH cut-off was 9 mU/L, second screening TSH cut-off was 5 mU/L
- We retrospectively analyzed the data of all newborns with birth weight less than 2500 g screened for CH.

RESULTS



- 37 newborns presented an increased TSH level at the second screening
- 26 neonates, after serum control, started L-Thyroxine treatment
- 50% of them was newborns with a birth weight higher than 1500 g
- The incidence of CH with delayed TSH elevation in North-Eastern Italy was **1:586 for LBW**, **1: 215 for VLBW** and **1:107 for ELBW**.

CONCLUSIONS

- The second screening strategy for CH in preterm neonates proved useful in detecting newborns who would not be otherwise identified at first screening procedure.
- More than a half of those who required a treatment had a birth weight higher than 1500 g.
- The incidence of CH with delayed TSH elevation, in North-Eastern Italy, was superior to that detected in previous studies.