USEFULNESS OF SECOND SCREENING STRATEGY FOR CONGENITAL HYPOTHYROIDISM IN LBW NEONATES

Paolo Cavarzere, Florina Ion Popa, Monica Vincenzi, Marta Camilot, Silvana Lauriola, Francesca Teofoli, Lorella Morosato, Evelina Maines, Rossella Gaudino, and Franco Antoniazzi

Division of Paediatric, Department of Life and Reproduction Sciences, University of Verona, Verona, Italy

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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.