ISSN 2446-5321

Archives of Endocrinology and Metabolism

OFFICIAL JOURNAL OF THE BRAZILIAN SOCIETY OF ENDOCRINOLOGY AND METABOLISM

Vol. 61 • Supplement 02 – June 2017

SBEM
Sociedade Brasileira de Endocrinologia e Metabologia

UNRECOGNIZED TRANSIENT HYPOTHYROIDISM DUE TO IODINE DEFICIENCY IN NEWBORNS RECEIVING TOTAL PARENTERAL NUTRITION: HOW COMMON IS IT?

Roberta Marobin[1], Amanda Veiga Cheuiche[1], Mariana Ragel Ribeiro[1], Rafaela Fenalti Salla[1], Sabrina Sigal Barkan[1], Sheila Piccoli Garcia[1], Tobias Skrebsky de Almeida[1], Ana Luiza Maia[1]

[1] Hospital de Clínicas de Porto Alegre

Iodine is critical for thyroid hormones synthesis, normal growth and neurological development in children. Iodine deficiency (ID) was a common cause of hypothyroidism in Brazil; nowadays it's a rare condition due to supplementation in cooking salt. Premature newborns are more vulnerable to iodine deficiency and must receive 90 mcg/day of elemental iodine, according to WHO. Today there is no formal recommendation for iodine use in total parenteral nutrition (TPN) in Brazil. We report a case of a 2-month old female patient born at 26 weeks gestation due to eclampsia. Right after birth, she presented respiratory distress syndrome. TPN was initiated on the first day because of very low birth weight. Thyroid function was assessed to investigate constipation, which reveals TSH 18 mUI/ml and free T4 0.95 mcg/dL (normal range 3.8 ± 4.7 mUI/ml and 1.5 ± 0.4 mcg/dL) suggestive of primary hypothyroidism. However, the neonatal screening test collected at 5th day of life was normal (TSH 2.7 mUI/ml), leading to other hypotheses to explain the case. We revised TPN nutrient composition prepared in our Institution and observed that there was no iodide, raising the hypothesis of transient hypothyroidism due to ID. We started reposition with Lugol 2% (iodine 650 mcg/weekly), at oral mucosa. Tests performed 15 days later were normal (TSH 1.72 mUI/ml, free T4 1.99 mcg/dL). Enteral nutrition was initiated after 2 days and was well tolerated, making it possible to suspend TPN and iodine replacement 4 days later. The TSH measurement one-week later was 4.03 mUI/ml. She had multiple clinical intercurrences and was discharged with 5-month of life. We had another case of primary hypothyroidism developed in a 2-month old male premature newborn who required prolonged TPN (TSH 21.28 mUI/ml, free T4 0.6 mcg/dL). He also had a normal neonatal screening test. Iodine replacement was attempted via a nasoenteric catheter, unsuccessfully (TSH 197.9 mUI/ml after 10 days). Then, thyroxin reposition was initiated due to critical clinical conditions, with a good response (TSH 9.72 mUI/ml 7 days after). In conclusion, iodine deficiency in newborns receiving prolonged total parenteral nutrition may be a frequent cause of transient neonatal hypothyroidism. Hypothyroidism at the beginning of life is associated with permanent severe neurological damage and must be promptly recognized and treated. When diagnosed, hypothyroidism due to iodine deficiency can be easily corrected with iodine reposition.