

IS TRANSIENT HYPOTHYROIDISM IN PRETERM INFANTS TRUE?

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Background

A second screening for congenital hypothyroidism between the second and the fourth week of life in preterm infants is recommended in order to avoid false negative on the first screening. The incidence of transient hypothyroidism in this population is high.

Objective and hypotheses

1. Analyze the utility of the second screening in our population of preterm infants.
2. Follow-up of those preterm infants with hypothyroidism.

Method

- Prospective study of 434 premature infants with a gestational age < 32 weeks and /or BW 1500 grams (220 female) born between January 2003 - December 2013 with a negative first screening, were included.
- TSH y free T4 by chemiluminescence assay (Siemens) were determined between the second and fourth postnatal week.
- SPSS15 were used for statistical analysis

Results

14 patients (3,2 %) were diagnosed with hypothyroidism, 12 of them with a BW <1000 g
All thyroid ultrasound demonstrated eutopic thyroid.

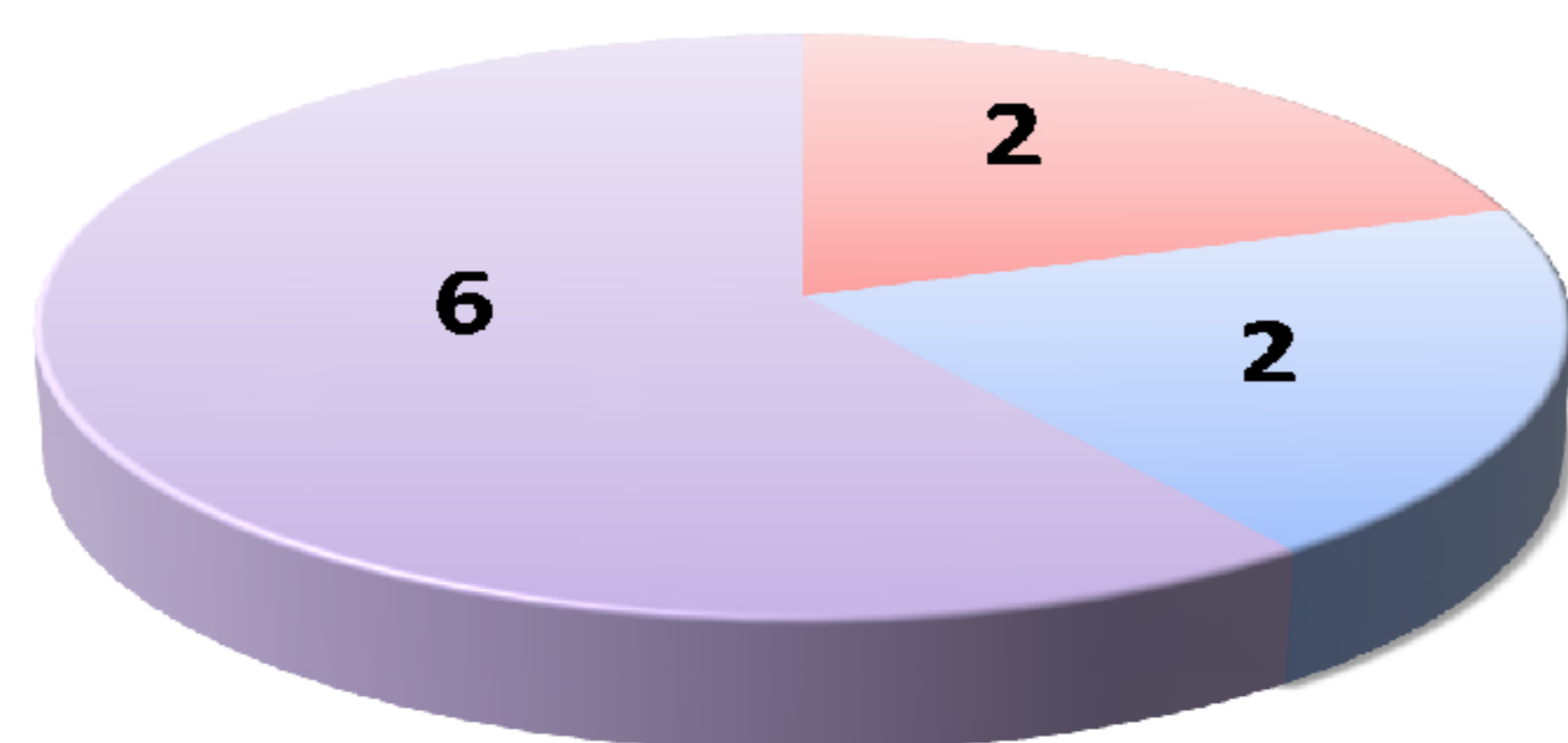
Table 1. Population characteristics

Gestational age (weeks) (SD)	27,4 (1,7)
Sex Female /Male	10/4
Weight (g)	891 (215)
Multiple pregnancy	5
SGA (1 caryotype)	2 (47XXY)
Family history of hypothyroidism	2
Blood samples collection (days):	25(15)

Tabla 2. Treatment

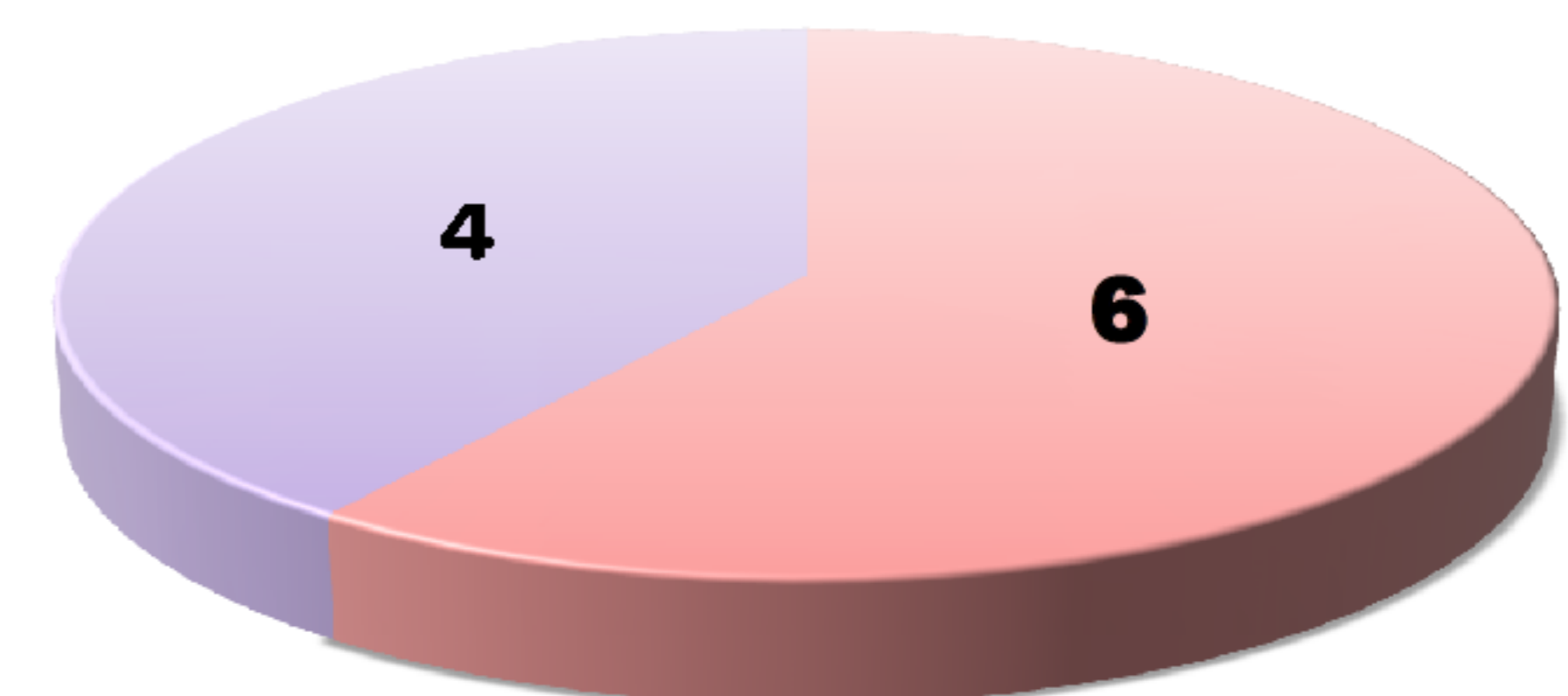
Started treatment (days)	32,58 (13,9)
TSH (mcU/ml)	80,9 (12,9-312)
FreeT4 (ng/dl)	0,79 (0,30)
Initial dose L-T4 (mcg/k/day)	10,98 (3,1)
Duration (months)	34,8 (5,9)

Reevaluation 10 of 14 patients: 4 continues treatment



- Permanent hypothyroidism: thyroid scintigraphy in a male demonstrated hypocaptation on the left lobe
- Hyperthyrotropinemia
- Transient hyperthyroidism

6 months later



- Permanent hypothyroidism
- Transient hyperthyroidism

The patients with transient hyperthyroidism and two patients with normal function after discontinuation of treatment, develop permanent hypothyroidism

Studies on exon 10 of the thyrotropin-receptor gene performed in some patients were normal

Conclusions

- Our data emphasizes the importance of follow-up thyroid function in preterm infants.
- Female and multiple pregnancy are factors associated with high risk of hypothyroidism
- Long term follow-up is indicated in these patients that require treatment in order to determine the definitive diagnosis

