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OBJECTIVE:

TO DETERMINE CH PREVALENCE - DRY BLOODSPOT TSH (b-TSH) BETWEEN 5 AND 10
TO EVALUATE THYROID FUNCTION EVOLUTION

METHODS:

RETROSPECTIVE STUDY / 2003 TO 2010 / b-TSH BETWEEN 5 AND 10

b-TSH > 5 => SERUM TSH AND f-T4 => s-TSH BETWEEN 5 AND 10 => FOLLOW-UP TO 2 YEARS

CH => BETWEEN 2 – 3 Y => T4 WITHDRAWAL TO CONFIRM CH

PREVALENCE:

- TOTAL GROUP => **CH**
- GROUP HEALTHY AT TERM + FOLLOW UP ≥ 6M (T4 WITHDRAWAL) => **PERMANENT CH**

PERMANENT CH => THYROID SCINTIGRAPHY WITH TECHNETIUM-99M (^{99m}Tc) => **ETIOLOGY**

CH = s-TSH ≥ 10 + TREATMENT ≤ 2y / **PCH** = TSH ≥ 10 + TREATMENT AFTER T4 WITHDRAWAL

RESULTS:

380,741 SCREENED => 3,713 (1.0%) 5 < b-TSH < 10mU/l

CH => 339 (9.1%)

HEALTHY, AT TERM, FOLLOWED-UP 6M AFTER T4 WITHDRAWAL

N = 256

- MALES 152 X FEMALES 104
- **70 (27.3%) PERMANENT HYPOTHYROIDISM**

=> 4 dysgenesis

(2 hemiagenesis, 1 lobe hypoplasia, 1 gland hypoplasia)

=> 8 goitres

	Initial Evaluation		
	Permanent (n=70)	Transient (n=186)	p
b-TSH (μU/l)	6.32 (1.85)	6.39 (1.70)	0.811
s-TSH (μU/l)	10.52 (6.39)	11.67 (5.66)	0.172
f-T4 (ng/dl)	1.24 (0.34)	1.37 (0.28)	0.001

• **f-T4 IN THE INITIAL NEONATAL EVALUATION => LOWER IN THE PCH GROUP**

• **CH DIAGNOSIS AFTER 4M = 22.6%**

• **PERMANENT HYPOTHYROIDISM AFTER 4 M WITHDRAWAL OF T4 = 25.7%**

CONCLUSION:

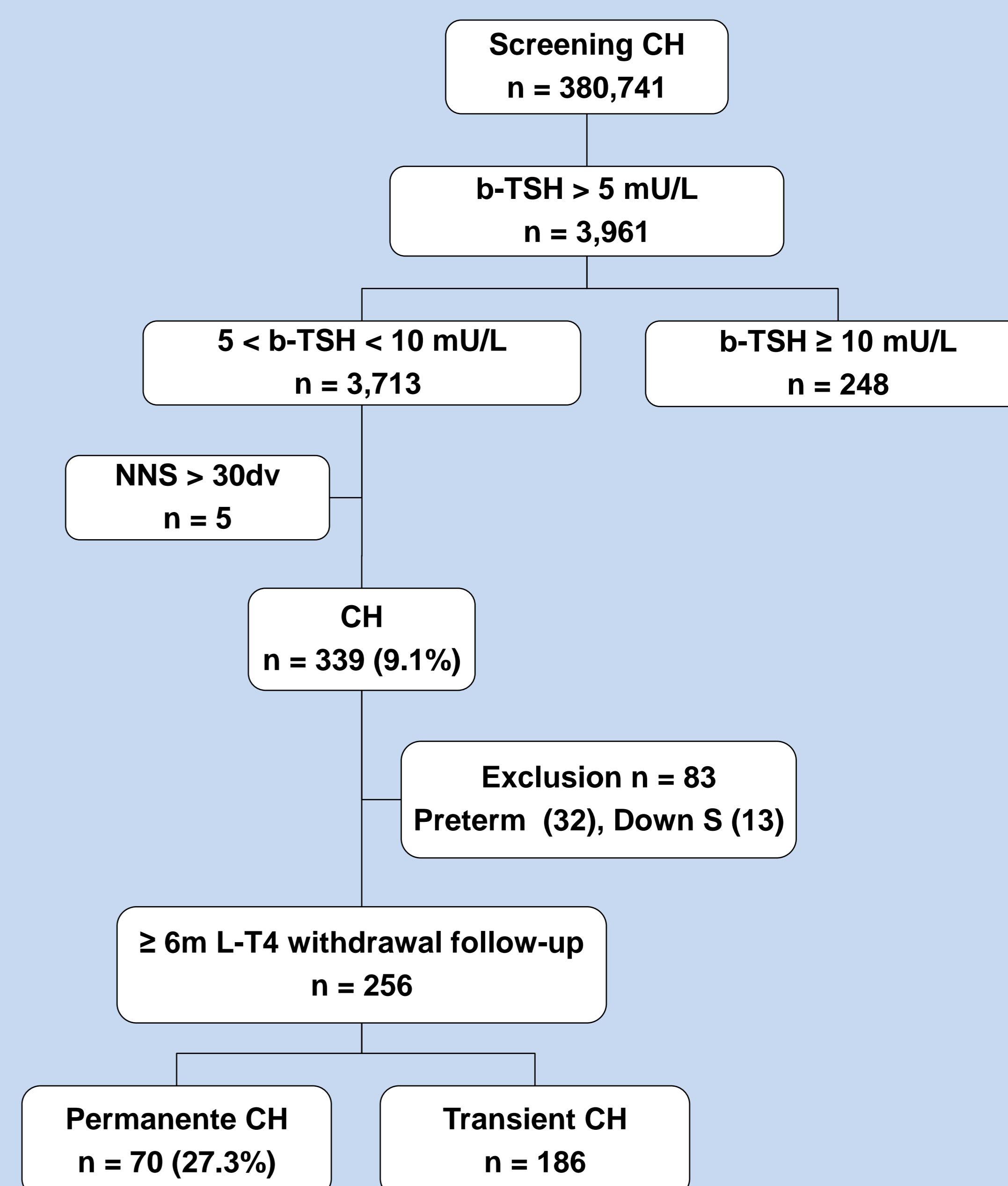
The b-TSH screening-test cutoff of 5mU/l, along with clinical and laboratory follow-up allowed the early detection of 339 CH and 70 permanent hypothyroid children that would have been missed if the current b-TSH cutoff of 10mU/l was used and that could be a delay to the development of the hypothyroidism.

Considering that:

Almost 10% of children with b-TSH between 5 and 10 mU/l in neonatal screening would have CH => **↓ b-TSH cutoff to 5 mU/l**

The delay of development of CH and PCH:

- the follow-up of children whose s-TSH were over the normal range in the **first year**
- the follow-up of children whose s-TSH were over the normal range for at least **6 months after T4 withdrawal**



DISCLOSURE STATEMENT: nothing to declare.