EVALUATION OF TRANSIENT HYPOTHYROIDISM IN

PATIENTS DIAGNOSED AS CONGENITAL HYPOTHYROIDISM

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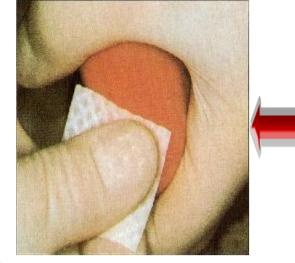
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BACKGROUND AND AIM

Congenital hypothyroidism (CH) is divided into two groups as 'permanent' and 'transient'. Diagnosis of transient hypothyroidism is important to avoid lifelong unnecessary therapy with its possible side effects. The financial burden for this unnecessary therapy could also be invested in other health care services. In this study we aimed to determine the rate of transient and permanent congenital hypothyroidism of the newborns referred to our clinic.

SUBJECTS AND METHOD





Congenital
hypothyroidism

Thyroid gland volume in USG 0,44-1,5 ml → Normal ≤0,44 ml → Hypoplastic ≥1,50 ml → Hyperplastic

LT4 doses $<1\mu$ cg/kg/day \rightarrow Treatment was terminated

Subjects with normal fT4 and TSH levels were normal at least 3 times without treatment ->
'transient hypothyroidism'

The clinical and laboratory findings of the transient and permanent hypothyroidism patients at admission and during follow up were compared.

2011

August 2011

MAY 2009

Infants diagnosed with CH were followed:

✓ Every month for the first year ✓ Every 2-3 months after 1 years old

RESULTS

256 newborns were referred to our clinic from neonatal screening programs

CONGENİTAL HYPOTHYROİDİSM (n=114) (44.5%)

63 (55.3%) GİRL

51 (44.7%) BOY

THYROID IMAGING (n=105)

Permanent Hypothyroidism (n=58) (70%)

35 (60.3%) GİRL

VOLUME 0,86 ± 0,49 ml (0.17-2.2 ml)

Hypoplasia: 13.3% (n=14)

Hyperplasia:10.4% (n=11)

Agenesis: 6.6% (n=7)

Ectopia: 1.9% (n=2)

Transient Hypothyroidism (n=25) (30%)

Exclude follow up

(n=31) (27.2%)

13 (52%) GIRL

Table 1: The characteristics of hypothyroidism patients at admission

	mean ± SD	Min – ma×
Day of application	21.3 ± 10.2	4.0 - 75.0
Day of Screening	8.44 ± 5.93	1.0 - 25.0
Neonatal TSH (µIU/ml)	48.1 ± 28.3	15.,1 - 111.8
Serum TSH (µIU/ml)	55.2 ± 33.85	10.7 - 150.0
Serum TT_4 ($\mu g/dl$)	6.42 ± 2.98	1.00 - 13.4
Serum fT_4 (ng/dl)	0.82 ± 0.42	0.3 - 2.1
Thyroid volume (mm ³)	0.86 ± 0.49	0.17 - 2.2
Time of the treatment initiation (day)	19.7 ± 8.30	5 - 60
Treatment duration (month)	24.7 ± 12.9	2 - 50
Treatment dose (µg/kg/day)	2.29 ± 1.33	0.9 - 8.25
Follow-up duration (month)	27.7 ± 12.9	3 - 51

CONCLUSION

In this study we determined that 30% of CH patients diagnosed in neonatal screening program had transient hypothyroidism. Diagnosing transient hypothyroidism is important to avoid lifelong unnecessary therapy.

Table II: The characteristics of patient groups with transient and permanent hypothyroidism (mean SD) (min-max)

Characteristics	Permanent	Transient	P
	hypothyroidism	hypothyroidism	
	(n = 58)	(n = 25)	
Day of application	19.2 ± 9.1 (6.0 - 64.0)	21.5 ± 9.08 (4.0 - 43.0)	0.828
Day of Screening	6.7 ± 5.7 (1.0-22.0)	9,8 ± 5,6 (1.0 - 21.0)	0.762
Neonatal TSH (µIU/ml)	52.4 ± 31.2 (15.1 - 111.8)	38.4 ± 20.5 (15.2 - 98.0)	0.002
Serum TSH (µIU/ml)	60.7 ± 37.1 (10.7 - 150)	42.5 ± 18.3 (19.7 - 75)	0.002
Serum TT ₄ (µg/dl)	6.2 ± 2.9 (1.0 - 12.7)	7.3 ± 2.7 (2.0 - 12.3)	0.464
Serum fT ₄ (ng/dl)	0.7 ± 0.3 (0.3 - 2.2)	0.7 ± 0.2 (0.3 - 1.3)	0.139
Thyroid volume (mm³)	0.8 ± 0.5 (0.1 - 2.2)	0.9 ± 0.4 (0.5 - 1.2)	0.558
Time of the treatment initiation (day)	18.9 ± 7.7 (6.0 - 47.0)	21.8 ± 8.0 (10.0 - 43.0)	0.860
Treatment duration (month)	29.2 ± 11.0 (3.0 - 50.0)	18.1 ± 11.5 (2.0 - 43.0)	0.842
Treatment dose (mcg/kg/day)	2.2 ± 1.3 (0.9 - 8.2)	0.6 ± 0.3 (0.6 - 0.9)	0.004
Follow up duration (month)	29.5 ± 11.1 (3.0 - 51.0)	32.5 ± 11.1 (12 - 50)	0.921