

EEG-Alterations are common in Hashimoto's Thyroiditis



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BACKGROUND

Steroid responsive encephalopathy with autoimmune thyroiditis (SREAT) is a rare clinically and electrographically heterogeneous encephalopathy associated with thyroid autoantibodies. Thyroid antibodies are the most frequent to be found in Hashimoto's Thyroiditis (HT).

OBJECTIVE & HYPOTHESES

We aimed to investigate, whether

- ✓ children and adolescents with HT without acute clinical manifestation of SREAT show electroencephalogram (EEG) alterations,
- ✓ and to compare EEGs of HT patients with those of healthy subjects.

METHODS

EEGs were performed in 31 patients with HT recruited via our paediatric-endocrine clinics and in 28 healthy controls matched for age and gender. Antibodies against thyroperoxidase and thyroglobulin were determined in all subjects, TSH and fT4 in HT patients solely.

RESULTS (I)

Table 1 gives an overview of the study-population. The patients' fT4 values were all within the age-appropriate normal range. 19 patients had normal TSH values, while 7 had values marginally above and 5 slightly below the normal range.

No thyroid antibodies could be detected in control subjects.

	HT patients	Controls
Number	31	28
Mean age ± SD (yrs) [range]	15.3 ± 2.7 [8.1-18.7]	14.7 ± 2.3 [10.8-18.9]
Female:Male	28:3	23:5

Table 1): Characteristics of study population; no significant differences concerning age or gender.

RESULTS (II)

HT-patients showed significantly more often EEGs that were found to be abnormal compared to the control group (Figure 1). Two EEGs with mild/questionable alterations in the patient group and three in the control group were classed as normal for statistical analysis.

In Figure 2 the detected EEG abnormalities of the two groups are listed. Figure 3 shows an exemplary abnormal EEG of a HT patient. Especially mild to moderate background slowing was common in HT patients compared to controls ($p < 0.05$, Fisher's exact test).

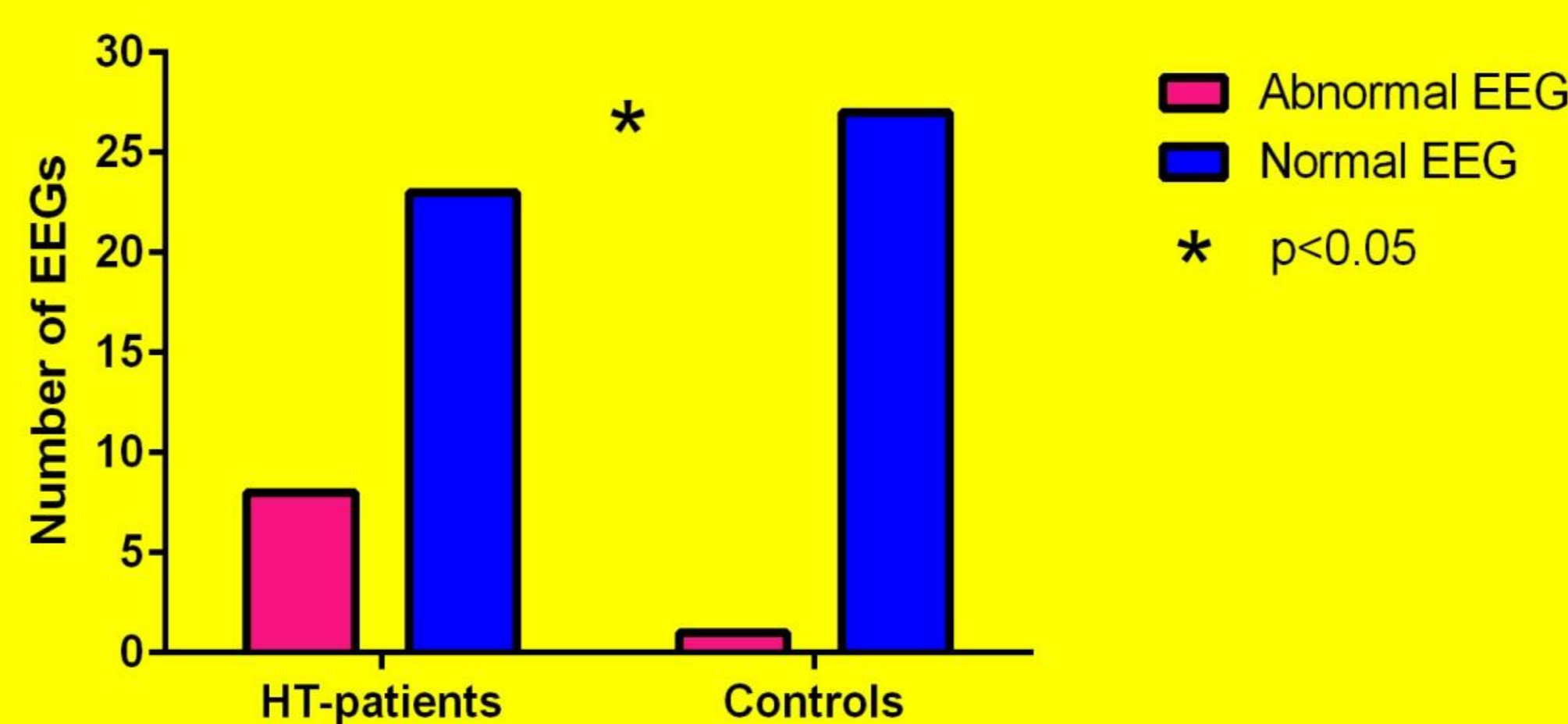


Figure 1): Numbers of normal/abnormal EEGs in HT-patient and controls; significant difference between patients and controls (Fisher's exact test).

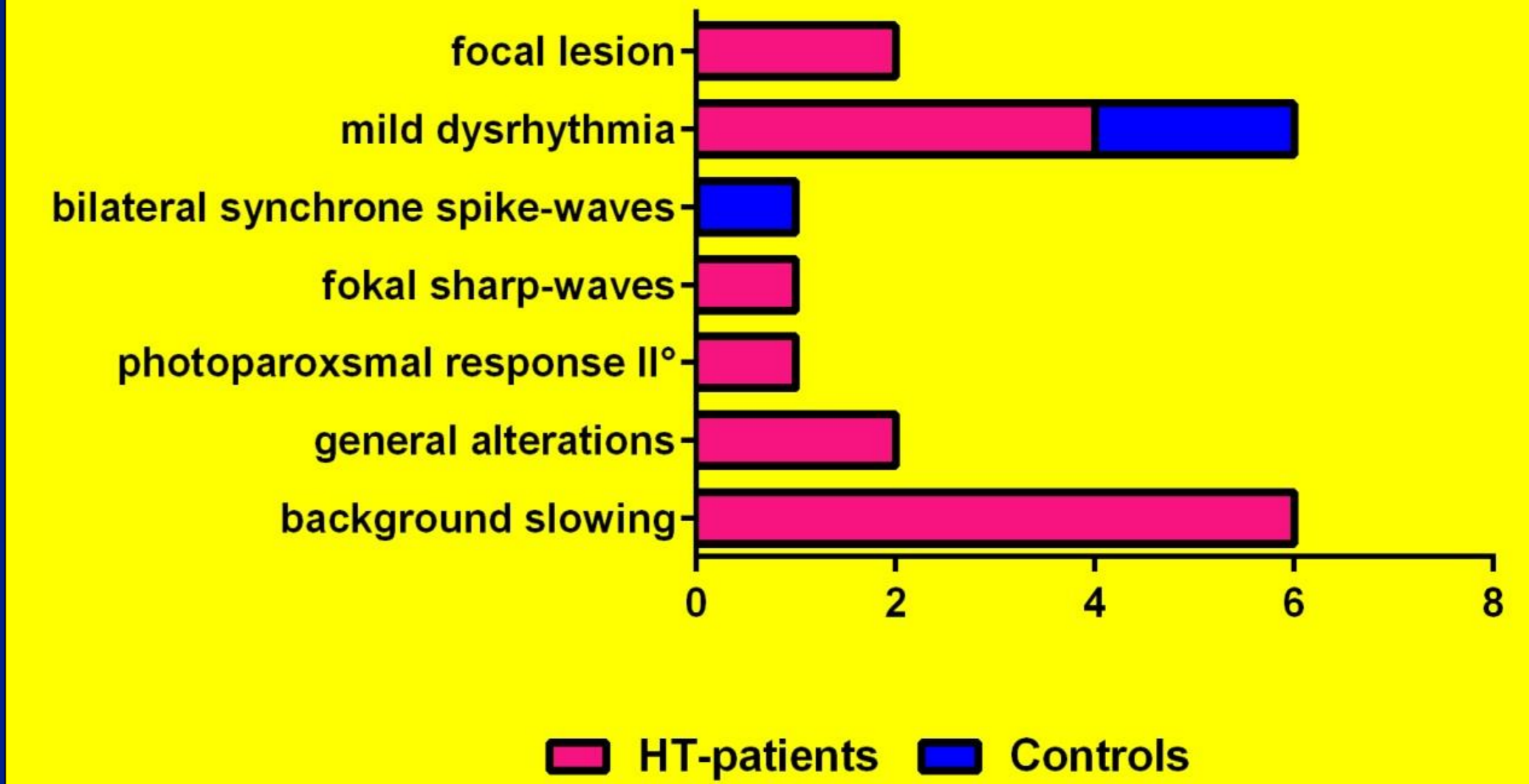


Figure 2): Numbers of EEG abnormalities in HT-patient and controls.

SUMMARY

- ❖ Children/adolescents with HT without clinical signs of SREAT present more often with EEG abnormalities.
- ❖ This could indicate a cerebral concurring in HT
- ❖ We speculate that those alterations might lead to SREAT as the maximal manifestation
- ❖ Consequently, we suggest regular EEG checks in patients with HT.

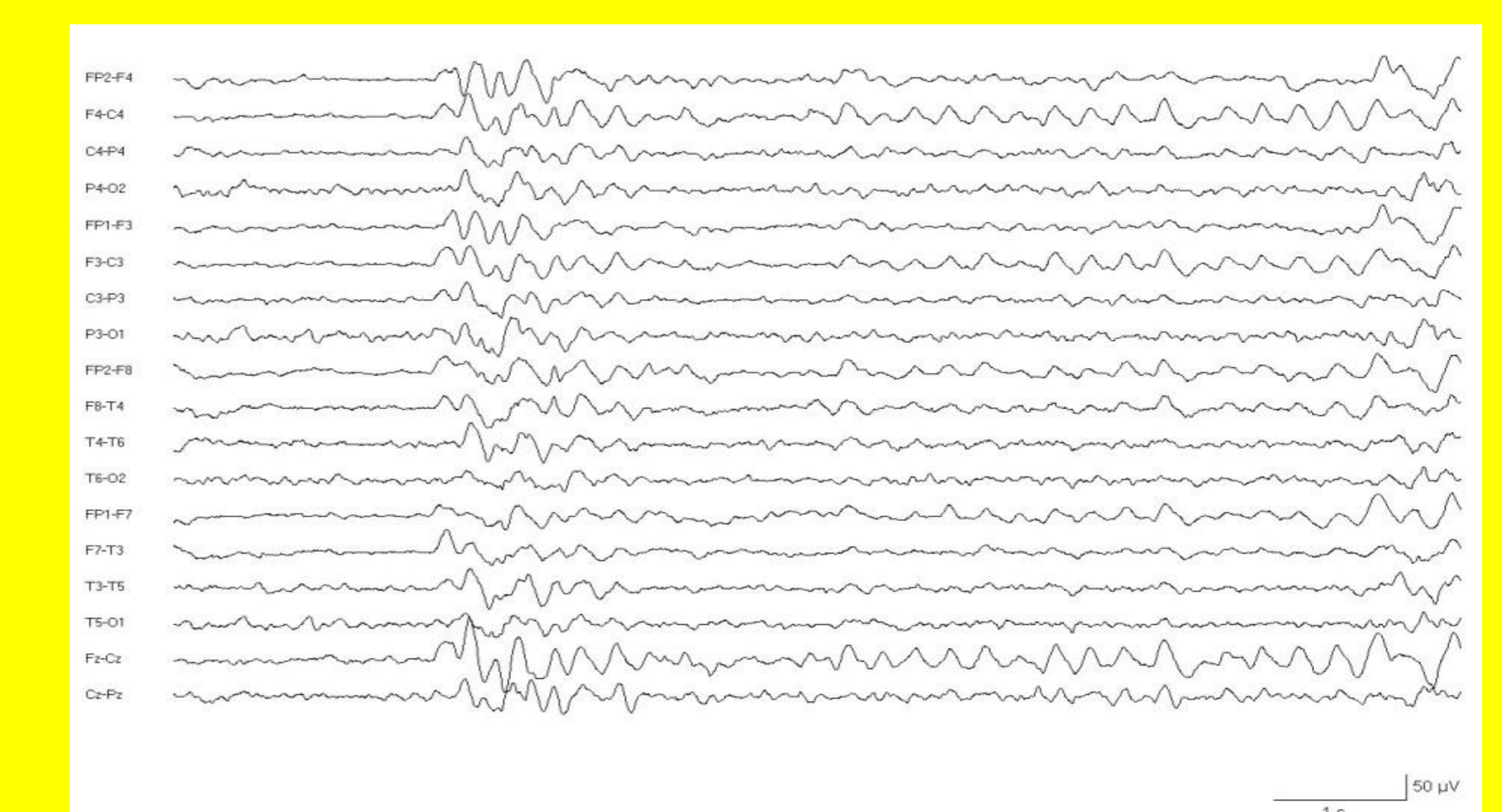


Figure 3): EEG of a 17-yr-old girl with HT showing slowing of background activity and generalized dysrhythmias.