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II. Medizinische Klinik der Universität München

TRF-STIMULATION-TEST IN HYPOTHALAMIC AND PITUITARY DISEASES, AND IN AUTONOMOUS ADENOMA OF THE THYROID

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Questions:

1. What is the validity of the TRF-stimulation test for the differentiation of hypothalamic and pituitary secondary hypothyroidism?
2. What is the TSH-response to TRF-stimulation in patients with „autonomous adenoma" of the thyroid with and without hyperthyroidism?

Methods:

500 μg TRF was rapidly injected i. v. into hospitalized patients. Blood samples were withdrawn for TSH determinations before (–15 and –5 min) and after TRF-injection (5, 10, 20, 30, 60, 120 min and 24 h). Serum TSH levels were determined radioimmunologically by a double antibody technique (1), using HTSH and anti-HTSH serum from NIH, Bethesda, and HTSH-Research Standard A from NIMR, London.

Results:

The TSH-response 30 min after injection of TRF was compared with the integral of the TSH-response from zero up to 120 min. The use of the 120 min integral did not improve differentiation between the groups as compared with the 30 min value.

The TSH-response after TRF-stimulation was absent or diminished in patients with intrasellar tumors (N = 12) after hypophysectomy, as compared to controls. In 3 out of 9 patients with intrasellar tumors studied preoperatively, secondary hypothyroidism existed. The TSH-response to TRF nevertheless was normal in these 3 patients. This result decreases the value of the TRF-test for the differentiation of pituitary and hypothalamic secondary hypothyroidism. In patients with suprasellar tumors or hypothalamic diseases the TSH-response was above normal (N = 4), normal (N = 2) or diminished (N = 2). In the latter 2 patients the anterior pituitary was involved in the underlying disease.

Further data obtained in patients with acromegaly (N = 13) and in subjects with autonomous adenoma of the thyroid will be presented.

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