98. Computerized tomography in the evaluation of endocrine ophthalmopathy


Changes of the orbital musculature and retrobulbar fatty tissue demonstrable by computerized tomography (CT) in endocrine ophthalmopathy are in the beginning caused by an inflammatory infiltrate in which lymphocytes, mast cells and plasma cells are the predominant cellular components. The muscle fibers show degeneration and loss of striation with ultimate fibrosis. Some of these changes can be visualized by CT.

CT in axial and coronal view was performed in 75 patients with suspected endocrine ophthalmopathy after clinical, ophthalmological and endocrinological examination. (Most of the patients were referred by the Endokrinologische Ambulanz, Medizinische Klinik Innenstadt, München, Prof. Dr. R. C. Pickardt).

The aim of the study was to examine the pattern and extent of extraocular muscle disease and to stage the disease with CT as far as possible.

In most cases inferior and medial rectus muscles were involved, accounting for about 35%, respectively.

In about 33% of our patients all rectus muscles were involved; additionally there was a combined involvement of inferior and medialis rectus muscles in 30% of the cases.

CT proved to be extremely helpful in the assessment of treatment following steroid or radiation therapy.

Follow-up controls can show regression or progression with respect to changes in the involved orbital musculature and therefore demonstrate success of treatment evidenced morphological changes.

In half of the patients the results of CT were compared with ultrasonography.

CT is a valuable method for assessing quantitative and qualitative changes in extraocular muscles and retrobulbar fat in Graves' disease.

It should be used when the course of the disease is atypical, when other intraorbital masses are to be excluded, in assessing the success of treatment, and in planning a surgical procedure.

99. Studies on the prevalence and clinical course of iodine-induced hyperthyroidism

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Iodine-induced hyperthyroidism is a long recognized phenomenon [1, 2]. However, data on the prevalence and clinical course of this disease are still contradictory [3, 4]. Therefore, we studied the rate of iodine contamination in comparison to hyperthyroidism in a large group of thyroid outpatients. Total plasma iodine was measured with an autoanalyzer *. T₄ was determined with an enzyme immunoassay and T₃ and TSH with a radioimmunoassay **.

Iodine contamination was assumed in samples with a difference between total plasma iodine and thyroxine iodine exceeding 5 μg/dl and found in 158 (4.6%) of 3,439 samples investigated. In 15 (9.5%) of these patients a diagnosis of hyperthyroidism was established which was based on clinical symptoms, elevated thyroid hormones (T₄ > 12.5 μg/dl and/or T₃ > 3.0 ng/ml) and a failing response of TSH after 200 μg TRH i. v. In the 3,281 control patients without iodine contamination overt hyperthyroidism was present in 82 (2.5%). These findings demonstrate a nearly 4 times higher prevalence of hyperthyroidism in patients with iodine contamination in comparison to a control group. However, 82 of the total of 97 patients with hyperthyroidism showed no apparent iodine contamination in plasma.

Follow-up studies were performed in the 15 patients with iodine-induced hyperthyroidism. Most of these showed only mild clinical symptoms which diminished after normalization of iodine levels.

* Total plasma iodine determinations were provided by V. Simcovic, München
** T₄, T₃ and TSH were determined in the Institute of Clinical Chemistry, Klinikum Großhadern