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PERSISTENT MEDULLARY THYROID CARCINOMA-INDICATION AND RESULTS OF REINTERVENTIONS.

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The fact of persistence of medullary thyroid carcinoma (MTC) is easy to establish by serum calcitonin determinations. Frequently the tumor growth is clinically occult. Surgery is the treatment of choice. The early spread into cervical and/or mediastinal lymph nodes, incomplete primary surgery occasional incorrect histopathological diagnosis and the localization of tumor tissue make treatment difficult. The aim of our study was to analyse the results of preoperative localization studies on the results of subsequent surgery. In 18 of 46 patients treated at the Surgical Dep. of the Heidelberg Univ. Hospital from 1978-85 we tried to localize regional persistent tumor tissue. 39 reexplorations (reex) in 18 patients were performed. 30 cervical and 9 mediastinal reexplorations via partial sternotomy were done. The localization was correct in 86% (18/21 reex) of cervical ultrasound examinations, in 74% (14/19 reex) of cervical CT-Scans, in 63% (5/8 reex) of mediastinal CT Scans, in 50% (5/10 reex) of selective venous blood sampling and calcitonin determinations and in 18% (7/9 reex) of conventional X-ray examinations. After final surgery clinical status was as follows: One patient did not continue his follow-up, in 4 patients surgery was palliative. In 12 patients the tumor persisted occult. In 6 of those patients serum calcitonin levels decreased postoperatively, in 5 patients the levels were unchanged and one patient showed an increase. Only one patient might be cured and the postop. calcitonin levels could be measured in the low normal range.

Conclusions: Ultrasound seems to be the method of choice in the detection of cervical persistent MTC, CT-Scan for mediastinal tumors. Almost no patient was cured by secondary surgery. Because of slow tumor progression and of missing alternative therapies reexplorations seem to be reasonable.

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PEPTIDES OF THE CALCITONIN FAMILY IN PATIENTS WITH MEDULLARY THYROID CARCINOMA

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In addition to the established tumor markers of medullary thyroid carcinoma (MTC), i.e. calcitonin (CT) and CEA, additional proteins stemming from the common CT precursor molecule were measured in MTC patients: katecalcitonin (KC) and calcitonin-gene related peptide (CGRP).

Methods: Serum samples were obtained from 20 patients with MTC pre- and postoperatively, during selective venous sampling and stimulation tests (pentagastrin= PG, calcium = Ca). Serum CT, KC and CEA were measured by radioimmunoassay (normal range: CT up to 0.3 ng/ml, KC 0.15 ng/ml, CGRP 0.1 ng/ml, CEA 2.5 ng/ml).

Results: Basal CT (0.28-168 ng/ml), KC (0.73-580 ng/ml), were markedly elevated in nearly all patients with MTC. There was a positive correlation between KC and CT levels ($r = 0.94$), CT and CEA levels (0.93), but no correlations between CT and CGRP levels. CGRP was elevated only in 5 of 10 patients. In cervical venous effluent CT as well as KC concentration were higher than in the peripheral veins in 5 of 9 cases, while CEA levels showed no gradient. After stimulation with PG and Ca a comitant increase and decrease of CT and KC was observed, while CGRP increased only in one patient, and CEA levels did not change. In MTC tissue CT, KC, CGRP and CEA could be detected in the same tumor cells.

Conclusion: The new tumor marker KC is as useful as CT in MTC. CGRP may be extremely elevated in some patients and therefore helpful in the diagnosis of MTC. As CGRP is not secreted together with CT in normal subjects, the concomitant elevation of both in some patients suggests the existence of different tumor types.

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IMPORTANCE OF ULTRASOUND EXAMINATION IN THE FOLLOW-UP OF MEDULLARY THYROID CARCINOMA IN COMPARISON WITH OTHER LOCALISATION METHODS

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If calcitonin (CT) and CEA levels are elevated postoperatively in patients with medullary thyroid carcinoma (MTC), localisation methods like sonography, computerized tomography, and selective venous catheterisation with measurement of CT-levels are available for identification of tumor tissue.

Patients and methods: In 39 patients with MTC sonograms of the neck were regularly done in 3 months intervals.

Results: 18 patients did not show any pathological echomorphologic findings in the neck. 10 of these patients had normal basal and pentagastrin-stimulated CT levels. In 8 patients elevated CT levels caused by distant metastases were found. It was possible to localize tumor tissue by ultrasound scan in 21 patients with postoperatively elevated CT levels; during the follow-up tumor nodules could be identified 32 times. The smallest occult MTC-nodule had a diameter of 0.8 cm. In 20 patients the lesions were hypoechoic, 1 nodule was echogenic with regressive lesions, and 1 was isoechogenic with a halo. There were no echogenic calcifications within the nodules. In addition other localisation methods were done. 14 out of 16 results of computerized tomography, 9 of 9 fine-needle biopsies, and 7 out of 13 selective venous catheterisations correlated with the ultrasound findings. By ultrasound suspected tumor tissue could be histologically proven in 20 out of 22 operations.

Conclusion: MTC-tissue is sonomorphologically hypoechoic. In comparison with other localisation methods ultrasound is the most practicable and reliable method for identification of tumor tissue in the neck.

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RESULTS OF THE SURGICAL TREATMENT OF MALIGNANT SALIVARY GLAND TUMORS

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In the treatment of malignant salivary gland tumors, there are some difficulties in evaluating the therapeutic efficacy: on the one hand, there is a great variety in the histopathology of these tumors, some of them being extremely malignant, others - e.g. the acinus cell tumors - growing slowly and forming rarely metastases. On the other hand, there is no uniform therapeutic treatment concept and finally these tumors are very rare.

We present a series of 195 malignant tumors of the salivary glands, collected between 1967 and 1985 (18 acinus cell tumors, 21 mucoepidermoid tumors, 12 malignant pleomorphic adenomas, 90 carcinomas, 12 adenoid-cystic carcinomas, 25 metastatic tumors and 17 sarcomas and malignant lymphomas). In all patients the same surgical technique was used, and it was always executed - or at least guided - by the same person. This number is still too small for statistical analysis, but the uniformity of the therapeutic regimen allows to attribute the differences in the therapeutic results to the differences in the histopathologic pattern and in the size of the tumors.

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