CLINICAL CASE OF MULTIPLE ENDOCRINE NEOPLASIA (MEN) TYPE 1

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Objective

To assess the sensitivity of granins – chromogranin A (CgA), secretogranin II (SgII), secretoneurin (Sn) as biochemical and immunohistochemical markers of nonfunctioning pituitary adenomas (NFPAs).

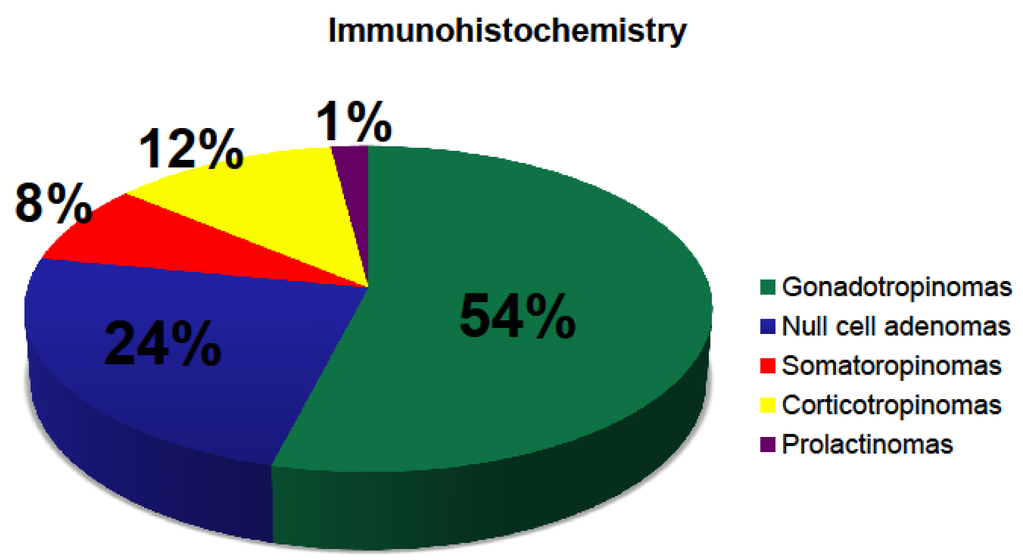
Methods

50 patients with NFPAs were included in the study. Tissue samples were immunostained for pituitary hormones, ki-67, αSU, CgA, SgII and Sn. Furthermore we have determined the levels of CgA, SgII in the serum and Sn in the plasma samples by ELISA method in patients before and after surgical treatment.

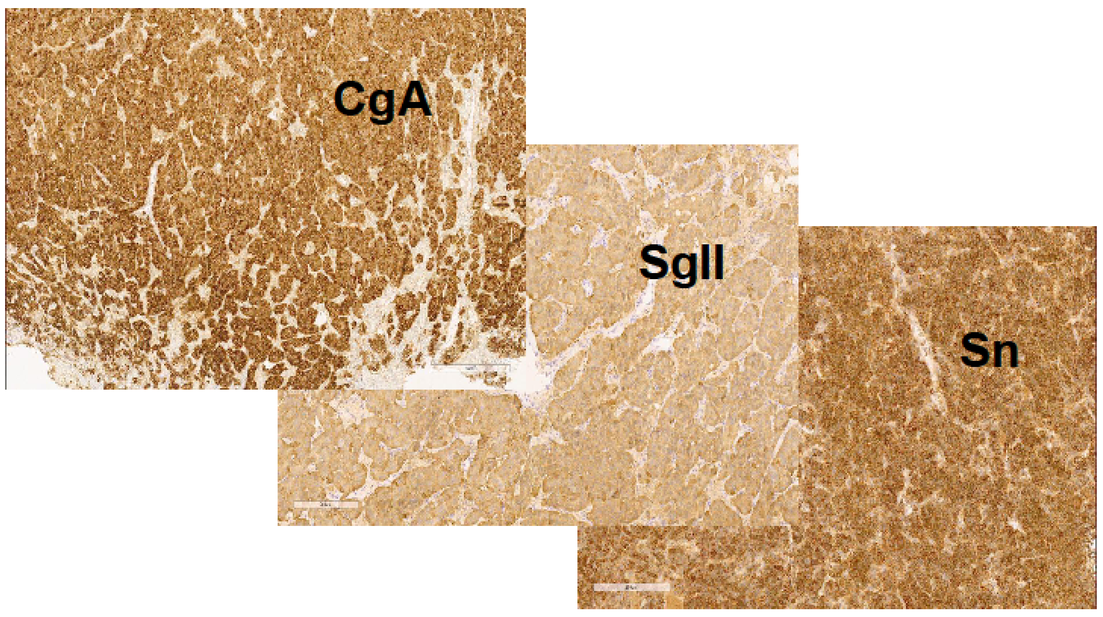
Case report

Of the 50 NFPA 27(54%) were gonadotropic tumors, 12 (24%) were null cell adenomas, immunopositivity for ACTH was determined in 6 cases (12%), for GH in 4 cases (8%), for PRL in 1 (2%). The median level of ki-67 was 2.8% (min. 0.2%, max. 7%). We divided all patients in 4 groups by the degree of granin immunopositivity. High immunopositivity for CgA was found in 10 cases (21%), for SgII in 17 (34%), for Sn in 24 (52%) compared to negative staining in 8 (17%), 10 (20%), 2 (4%), respectively. High immunopositivity for all granin types was more frequent in gonadotropinomas, negative or slow staining for CgA and medium to high staining for SgII and Sn was more typical for ACTH and GH silent adenomas. The average serum CgA concentration before operation was 60.3 nmol/l (±5.2), after surgical treatment 67.84 (±9.8), SgII serum 24.9 (±8.9) and 27.6 (±8.9), plasma Sn 3.2 (±0.2) and 3.4 (±0.3) serum respectively. In healthy subjects the average levels of CgA and Sn were comparable with NFPAs patients 60.2 (±10.5) and 4.1 (±0.7), respectively, but healthy subjects had lower levels of SgII 14.8 (± 7.30). We did not found any correlation between granin levels and their tissue expression.

Picture 1. NFPA: immunohistochemical analysis



Picture 2. Immunohistochemistry positive for Chromogranin A (CgA), Secretogranin II (SgII), Secretoneurin (Sn)



Conclusion

The TSH-secreting adenoma is a rare cause of hyperthyroidism. Diagnosis is usually delayed due to milder and nonspecific clinical picture, because of that patients can be managed by cardiologists for long periods of time. Surgery is still the mainstay of treatment, although somatostatin analogs may be effectively used as medical therapy which is reflected by expression somatostatin receptors in the adenoma.

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