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Pancreatic Neuroendocrine Tumors – Case Series and Literature Review

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Abstract

Background: Neuroendocrine tumors (NETs) are a heterogeneous group of tumors with various clinical manifestations and biological behavior. Among the most common neuroendocrine tumors (NETs) are pancreatic neuroendocrine tumors (PNETs). They are considered to be relatively rare tumors; however, more recent studies on NET epidemiology have demonstrated an increasing incidence and prevalence over the past 30 years.

Aims: We intend to compare the strategy used in a real life clinical environment in the case of pancreatic neuroendocrine tumors, as opposed to an ideal model, as presented in literature.

Materials and methods: Our case series consist in 18 patients with neuroendocrine pancreatic tumors diagnosed and treated in the Surgery I department of Clinical Hospital Dr. I. Cantacuzino over a 10-year period (2009-2018). We made a retrospective analysis of these patients, of their diagnosis particularities and choice of treatment and a review of the literature.

Results: Out of these 18 cases, 13 had functioning tumors (11 insulinomas and 2 gastrinomas) and 5 non-functioning tumors. Most of the tumors were located in the tail of the pancreas (12 cases) the others were located in the body (1 cases) and the head of the pancreas (5. cases). Surgical treatment consisted in 10 enucleations (3 of them laparoscopic) and 8 pancreatic resections, 2 of them associated with splenectomy and in one case a liver metastasectomy was also performed. The mean follow-up was 12 months. No local or distant recurrences were found with one exception, one female which presented after one year with a cephalic pancreatic tumor that proved to be an adenocarcinoma.

Conclusions: Diagnosis of PNETs may be difficult even in the presence of a hormonal hypersecretion syndrome. Nuclear imaging with octreotide is useful for locating the tumor and also for the detectionof any possible occult tumors which cannot be identified through the use of conventional imaging. All PNETs should be considered as potentially malignant, and the use of the term "benign" should be particularly avoided, which is why tumor grading based on the mitotic count and Ki-67 index must be established for every case. Surgical treatment remains the only with curative potential

Key words: pancreatic neuroendocrine tumors, insulinoma, non-functioning neuroendocrine tumors