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GENE EXPRESSION PROFILE OF SIGMA-1 (S1R) AND SIGMA-2 (S2R) RECEPTORS IN PANCREATIC CANCER

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Background: Pancreatic cancer is a highly aggressive tumor mainly associated with poor prognosis.

Aim: The main goal of our study was to assess the expression levels of the genes SIGMAR1 and TMEM97 encoding s1R and s2R, respectively, in pancreatic cancer as compared to healthy controls.

Materials and methods: Gene expression data of SIGMAR1 and TMEM97 were analyzed from a database (Pei H, et al. Cancer Cell 2009 Sep 8;16(3):259-66) comprising of n=52 pancreatic cancer specimens and normal specimens. The gene expression data were log-transformed, median centered per array and the standard deviation was normalized to one per array. All values from the transformed data were downloaded from the PubMed GEO dataset (https://www.ncbi.nlm.nih.gov/gds). Gene expression was considered to be significantly over- or under-expressed when p< 0.05 comparing pancreatic cancer vs. healthy controls.

Results: The gene expression of SIGMAR1 was similar between pancreatic cancer and healthy controls. On the contrary, the TMEM97 was significantly under-expressed in pancreatic cancer compared to healthy controls (p = 0.0001). We also found a negative correlation between the gene expression of SIGMAR1 and TMEM97 (p = 0.0132 and Spearman’s r = -0.2423). Deming regression analysis revealed significant negative association (p = 0.0132) between the gene expression of SIGMAR1 and TMEM97 given by the following equation: TMEM97 = -10.66*SIGMAR1 + 76.62.

Conclusions: Our results indicate that TMEM97 that encodes s2R is significantly under-expressed in human pancreatic cancer. The prognostic value of s2R along with its possible utility as biomarker for pancreatic cancer requires further investigation.

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MULTICENTRIC PANCREATIC SOLID PSEUDOPAPILLARY TUMOR – A CASE REPORT

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Introduction: Solid pseudopapillary neoplasm of the pancreas is a neoplasm that since its original description by Frantz in 1959 has received several denominations. It is a very rare neoplasm with an incidence of approximately 1% of all pancreatic neoplasms and is characterized by predominantly reaching young female patients, having low aggressiveness and that almost always its treatment consists of a complete surgical resection. Its etiopathogenic aspects still generate discussions.

Method: We report a case of a 17-year-old female patient with non-specific abdominal pain, initially of weak intensity located in the left hypochondrium, radiating to the dorsal region and worsening in the last three months. Computed tomography evidenced two well-defined formations in the topography of the pancreas, one of solid feature in the neck and the other solid with cystic areas in the body. Laboratory tests and tumor markers did not show any type of alteration.

Results: Indicated an open surgical approach. Two well-defined formations separated by normal-looking pancreatic tissue were evidenced intraoperatively. Left hemipancreatectomy with splenectomy was performed. Patient evolved without complications and was discharged on the 6th postoperative day. The histopathological and immunohistochemical results confirmed the diagnosis of pseudopapillary cystic solid neoplasm in the two tumor formations with normal pancreatic parenchyma between them.

Conclusion: Solid pseudopapillary neoplasm of the pancreas mostly described as an unicentric lesion, with similar distribution in head, body and tail of the pancreas. Some biomolecular aspects of the disease are still unknown and may have a multicentric presentation, as in this patient.

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IMPACT OF THE BRCA GENE MUTATIONS ON THE SURVIVAL IN PATIENTS WITH Pancreatic CANcer: A CASE SERIES ANALYSIS

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Introduction: The BRCA gene mutations are found in up to 10% of pancreatic adenocarcinoma cases. Furthermore, this is a description of 5 cases of BRCA mutations with large response after neoadjuvancy, 2 cases with complete pathological response was obtained after resection. We show pancreatic cancer and the potential role of BRCA mutations regarding therapeutic implications, complete pathological response and survival benefits.

Case report: We present 5 cases of pancreatic adenocarcinoma in 3 of these the BRCA2 mutation was identified, in one the BRCA1 gene alteration. Two patients following the neoadjuvant treatment with FOLFIRINOX and radiotherapy underwent surgery; in the first case a distal pancreatectomy with splenectomy was performed and in the second one the Whipple’s procedure. In both cases, a complete pathological response was reported (figure 1). Other 3 patients were treated with FOLFIRINOX after BRCA mutation identification and acceptable life expectancy was obtained.

Discussion: The association between complete pathological response, lower rates of local recurrence and better survival in patients with various types of adenocarcinomas is well known. Identification of such patients with BRCA mutations could help to perform a personalized treatment.

Conclusion: In some patients with pancreatic cancer, especially when there is clinical or demographic reason to suspect a genetic predisposition, a confirmation of the presence of BRCA mutations could provide an opportunity...