

Case Report

New-onset type 2 diabetes mellitus as a symptom of pancreatic cancer: case report

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Abstract

Pancreatic Cancer is one of the most lethal cancer, representing the fourth leading cause of cancer death in the world. Several pancreatic cancer risk factors have been identified. Evidence has showed that family history of pancreatic cancer and diabetes mellitus are two important factors to consider in the develop of pancreatic cancer. We report the case of a woman who presented new onset type 2 diabetes as a symptom of an occult pancreatic cancer that was confirmed by liver biopsy. She also had family history of pancreatic cancer. The following report will serve to emphasize the role of new-onset diabetes in pancreatic cancer and at the same time the need to collect an adequate medical record which includes family medical history at the primary care consultations. Highlighting the importance of create new and unified protocols for the screening of pancreatic cancer, and making more studies to investigate if it necessary make specifics test in patients with new-onset diabetes who associates other risks factors of pancreatic cancer.

Pancreatic cancer (PC) is the 13th most common cancer diagnosed and the fourth leading cause of cancer death overall [1]. This high mortality is due to late symptom onset and because most of the cases of pancreatic cancer are stage IV at diagnosis, and hence not a candidate for curative resection. Several pancreatic cancer risk factors have been clearly identified like family history of pancreatic cancer, tobacco smoking, chronic pancreatitis or diabetes mellitus among others [2].

PC occurs with increased frequency in patients with type 2 diabetes mellitus (DM2) which is considered the third modifiable risk factor for pancreatic cancer after cigarette smoking and obesity [3]. Different studies have shown that long-standing type 2 diabetes may increase the risk for pancreatic cancer, and at the same time, new-onset diabetes may be a symptom caused by early occult pancreatic cancer, because of a paraneoplastic process [4-6]. Although numerous studies have linked both entities since 1833 the mechanism behind this association are complex and not well understood by the moment.

We report a clinical case that emphasize the importance of a correct clinical history record in patients with new-onset diabetes mellitus, to identify potential risk factors and make a correct differential diagnosis with other pathologies that can produce it secondarily as cancer pancreatic.

Case presentation

A 49-year-old woman with no significant medical history, no toxic habits and an active lifestyle was diagnosed with type 2 diabetes mellitus at the primary care consultation after displaying symptoms like polyuria and polydipsia for several weeks. High analytical levels of serum glycosylated hemoglobin (HbA1c) 7,5% (58 mmol/mol) confirmed the diagnosis. The primary care physician started treatment with metformin, but ten days later the patient developed metformin intolerance, so it was replaced by dipeptidyl peptidase 4 inhibitor. Three months later, patient increased the levels of glycosylated hemoglobin [HbA1c = 10,1% (87mmol/mol)], so dapagliflozin was added. Nine months after the diagnosis, poor glucose controls and high levels of

glycosylated hemoglobin persisted [HbA1c= 9,1% (76mmol/mol)], so her physician began insulin therapy and referred her to the diabetes mellitus type 2 specialist consultation at the hospital.

The patient comes to the diabetes mellitus specialized consulting for the first time ten months before the diagnosis and she was being treated by 14 units of insulin glargine at midday. Covering the patient's anamnesis, the patient told us that both her parents had died of pancreatic cancer in their 70s. This information did not appear in her medical record. The patient also spoke about suffering from uncontrolled weight loss (about 16 kg) in the last 4 months. With these information, blood test with tumor markers and a preferential chest-abdomen-pelvis computed tomography study were requested.

Three days later, blood tests revealed high levels of glucose: 284 mg/dL (13.76 mmol/L), HbA1c of 9.1% (76mmol/mol) and the significant tumor markers levels: CA125 1385 .0 U / mL, CA 19.9> 201600.0 U / mL. A week later, the computed tomography displayed a 73x48 mm hypodense mass in the tail of the pancreas that encompasses the splenic artery. It also showed multiple injuries consistent with hepatic parenchymal metastases associated to a retrocaval lymphadenopathy. She was admitted to the hospital to perform a liver biopsy. Its pathological anatomy showed a metastasis of pancreatic adenocarcinoma. The patient was diagnosed with stage IV pancreatic adenocarcinoma and sent to the Oncology Unit. She was informed about the extent of the disease and started a palliative treatment with chemotherapy (Gemcitabine + Abraxane). The disease progressed rapidly and the patient's pain increased, requiring morphine. Four

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Key words: medical records, diabetes mellitus, type 2, carcinoma, pancreatic ductal

Received: October 20, 2017; **Accepted:** November 21, 2017; **Published:** November 25, 2017

months later, metastatic areas were detected in both lungs. The patient then decided to discontinue the chemotherapy treatment and requested to be sent to the pain control unit. The patient deteriorated rapidly, with increasing anorexia, jaundice and asthenia. A month later, she suffered from severe encephalopathy. She died seven months after the diagnosis.

Discussion

In our patient, new-onset type 2 diabetes mellitus was probably a sign of pancreatic cancer, but her cancer was only detected after the persistent of poor glucose control. Earlier detection of diabetes, and especially with her family history may have prompted further testing for PC.

As commented previously, it is a clear association between diabetes mellitus and pancreatic cancer. In addition, family history of pancreatic cancer is another important risk factor to develop pancreatic cancer [7]. Likewise, other studies have shown that there is also a synergistic association between this two risk factors for pancreatic cancer: new-onset diabetes mellitus and family history of pancreatic cancer for its development - Situation that occurred in our clinical case, and it was not recorder properly [8].

Relying on several studies patients with new-onset diabetes mellitus and other risk factors associated should be evaluated with tumors markers (CEA and Ca 19-9) and an image test as CT scans may be offered to those at very high risk [9-10].

At the same time, this case report, reopens the discussion about the need to develop unified pancreatic cancer screening protocols, including in some way type 2 diabetes in their criteria; or at least, to establish other determinations or a different follow-up method in those patients with type 2 diabetes who associate other risk factors (such smoking, obesity among others).

In addition, this clinical case emphasizes the importance of the family history adequate recorder at the medical personal history which should be considered as a mandatory requirement at the primary consultations in order to detect early and to prevent different diseases.

Conflict of interest

The authors state that they have no conflict of interest.

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