Case report

Pancreatic tuberculosis mimicking a neoplastic mass in an immunosuppressed patient who also presented adenopathy syndrome: Case report

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ABSTRACT

Introduction: Pancreatic tuberculosis is unusual, with an incidence reported to be less than 4.7% worldwide.

Case report: We report the case of a 32-year-old man recently diagnosed with HIV whose adenopathy syndrome was understudy. Lymph node cervical and bone marrow biopsies were performed without evidence of neoplastic infiltration, fungal infection, or tuberculosis. He arrived at the emergency room for acute band abdominal pain radiating to the back.

Results: Contrast-enhanced abdominal computed tomography revealed a mass in the head of the pancreas which generates intra- and extrapancreatic bile duct dilation. Serial sputum, PPD, Genexpert, bronchoscopy and ultrasound fine needle aspiration biopsy were negative for tuberculosis, with no evidence of microorganisms or malignancy; cultures results pending. A second biopsy was requested using a No. 19 needle reporting a necrotizing process with acid-fast bacilli, compatible with tuberculosis, and the pending cultures results were positive for the mycobacterium tuberculosis complex, confirming the diagnosis.

Conclusion: Clinical awareness of pancreatic tuberculosis in immunosuppressed patients in our country, may lead to faster and accurate diagnosis study and management, using minimally invasive techniques as diagnostic tools.
2021 he presented abdominal pain associated with fever and sweating, therefore, an abdominal computed tomography scan was performed showing retroperitoneal superior paraaortic-adenopathies and inferior interaortocaval being the largest 3.5 cm × 2 cm. Subsequently, Lymph node cervical biopsy (March 2021) and bone biopsy (May 2021) were performed without evidence of neoplastic infiltration, fungal infection, or TB. As he continued with symptoms, a positron emission tomography scan; PET SCAN (May 2021) was requested, showing hypermetabolic intra-abdominal adenopathy of SUV 17.6 with high suspicion of lymphoma. CA 19-9 was normal.

In June 2021 the aforementioned patient arrived at the emergency room for acute band abdominal pain radiating to the back, asthenia, adynamia, night fewer and diaphoresis. At physical examination he presented moist oral mucosa, no injuries, globed, soft and depressible abdomen not painful to palpation, no masses, and no megalias, no jaundice. An abdominal ultrasound reported an increase in the volume of the pancreatic head, poorly defined borders, heterogeneous echogenicity, reaching dimensions of 53 cm × 50 cm × 55 cm, with very high amylase (700 U/L) and lipases (1400 U/L). A contrast-enhanced abdominal computed tomography revealed and intra- and extrahepatic bile duct dilation with intra- and retroperitoneal lymphadenopathy of origin to be determined and a mass in the head of the pancreas (Fig. 1).

Thus, the following studies were requested: serial sputum BK with a negative result, skin test of purified protein derivative (PPD) with result 0 mm (negative), genexpert with a negative result, and culture for mycobacteria with the pending result. Chest CT was also requested reporting micronodular diffuse pattern and centrilobular distribution without consolidations, suggesting an infectious or inflammatory process.

Consequently, two new exams were requested: bronchoscopy and EUS fine needle aspiration needle No. 22 Acquire™, Boston Scientific Corporation, Natick, MA, USA, of the mass in the head of the pancreas, both of them reported no evidence of microorganisms or malignancy. Unclear about the etiology of the mass in the head of the pancreas, a new endoscopic ultrasound (EUS) with biopsy (fine needle biopsy FNB) of the pancreatic head mass was performed using needle No. 19 Acquire™, Boston Scientific Corporation, Natick, MA, USA.

On the 26th of June 2021, the report of sputum culture for mycobacteria in liquid medium was received; (it was carried out on 11th of June), being positive for the mycobacterium tuberculosis complex. Immediately, TBC treatment was indicated following the Colombian guide for the treatment of tuberculosis called supervised short-term treatment according to the district secretary of Colombia. Thereafter, the outcomes of the second-pancreas-lesion biopsy reported a necrotizing process with acid-fast bacilli, compatible with tuberculosis, without evidence of malignancy. Regarding concurrent tuberculosis treatment, disseminated TB must comply with a total of 196 doses. Phase 1: eight weeks monday to Saturday: isoniazid, rifampicin, pyrazinamide, ethambutol Phase 2: eighteen weeks twice a week: rifampicin, isoniazid. Change in therapy was made on May 19, 2022, antiretroviral therapy was adjusted to the use of rifampicin. Prophylaxis
was given with trimethoprim valganciclovir. The patient had good treatment adherence and the two-phases-TB treatment was completed.

On June 12, 2022, a follow-up contrast-enhanced computed tomography of the abdomen and pelvis was performed. The results reported the pancreas and the spleen with normal shape, size and contours with a complete resolution of the mass in the head of the pancreas (Fig. 2). However, the presence of retroperitoneal left para-aortic adenopathies with diameters of up to 1.2 cm at the infrarenal level were identified and are still under study. Currently, the patient is in good general conditions, follows HIV treatment regimen and an improvement in his CD4 level was seen as follows: CD4: 33 04/01/2020, CD4:35 04/30/2021, CD4:70 09/24/2021, CD4:138 06/24/2022.

Discussion

Although pulmonary TB is the most frequent presentation of the disease, EPTB accounts for nearly 20 % of all cases of TB in immuno-compotent patients, and nearly 50% of all cases of TB in HIV-positive individuals [4].

According to the World Health Organization [1] among all those affected with TB, 8.2 % were people living with HIV. In Colombia, the National Institute of Health [5] reported that by the end of 2020, 12.8 % of the people affected with tuberculosis had coinfection with HIV.

In our case, as the patient was immunosuppressed, with adenopathy syndrome and B symptoms, it was needed rule out the course of a neoplasm (lymphoma), inflammatory or infectious process as an etiology for the pancreatic mass. It is worth mentioning that the presence of enlarged peripancreatic lymph nodes is a typical finding in pancreatic cancer. Likewise, taking into account the symptoms of abdominal pain associated with elevated levels of amylase and lipase, pancreatitis was considered as the first differential diagnosis.

Pancreatic TB is unusual, with an incidence reported to be less than 4.7 % worldwide; based on a 1944 autopsy series [6]. Pancreas is relatively resistant to TB because pancreatic enzymes destroy the pathogen. The role of antibacterial pancreatic factors and antinflammatory effect from pancreatic extracts and purified lipases and deoxyribonuclease have been also proposed as the responsibilities for rare occurrences of pancreatic TB [7,8].

Regarding the techniques to obtain tissue, Panic Nikola, 2020, in their systematic review reported that more than half of patients were pancreatic TB [7,8].

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Their systematic review reported that more than half of patients were pancreatic TB [7,8]. The clinical presentation of this patient was highly suspected of being a tumor, and surgeons considered that by performing a laparoscopic technique there was a risk of generating pancreatic fistula. Endoscopic ultrasound allowed clinicians to obtain tissue and make decisions to offer medical treatment and not a surgical one, benefiting the patient.

Colombia has just reported one case of pancreatic TB [10], therefore, clinical awareness of pancreatic TB in our country, may lead to a faster and accurate diagnosis study and management, using minimally invasive techniques as diagnostic tools, which will benefit the patient.

CRediT authorship contribution statement

All authors contributed in the same way: Conceptualization, Methodology, design, data analysis, Writing – original draft, Writing – review & editing.

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None.

Ethical approval

In our institute, the approval of the ethics committee for the retrospective analysis of a clinical case report is not required.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Declaration of interests

None.

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References

[1] Global tuberculosis report 2020. Geneva: World Health Organization; 2020.

[2] Ker Ken T, Kenneth C, Kiu Hin L, Choon, Kian H. Pancreatic tuberculosis mimicking pancreatic carcinoma: series of three cases. Eur J Gastroenterol Hepatol 2009;21(11):1317-9.

[3] Mohammet AR, Baroudi MF, Hamad A-S, Mohammet A-F, Tarik A, Husein E. Pancreatic tuberculosis mimicking pancreatic carcinoma: four case reports and review of the literature. Dig Dis Sci 1998;43(2):329-31.

[4] Emilio L, Jayne E, Kogieleum N, Esther CC, Paquita S, Razia H-M, et al. Tuberculosis-HIV co-infection: progress and challenges after two decades of global antiretroviral treatment roll-out. Arch Bronconeumol 2020;56(7):446–54.

[5] National Institute of health. Behavior of the tuberculosis surveillance, Colombia, 2020. (Epidemiological week 39). Epidemiol Bull Col 2020:1–5.

[6] Auerbach O. Acute generalized miliary tuberculosis. Am J Pathol 1944;20(1):121–36.

[7] Chaudhary P, Bhadana U, Arora MP. Pancreatic tuberculosis. Indian J Surg 2015;77(6):517–24.

[8] Knowles FK, Saltman D, Robson HG, Lalonde R. Tuberculous pancreatitis. Tubercle 1990;71(1):65–8.

[9] Panic Nikola, Maetzel Hartwing, Bulajic Milutin, Radovazovic Milhailo, Löh J Mathias. Pancreatic tuberculosis: a systematic review of symptoms, diagnosis and treatment. U Eur Gastroenterol J 2020;8(4):396–402.

[10] Lagudo M, Otero A, Isabel Bolívar. Pancreatic tuberculosis: a rare extrapulmonary manifestation. Intern Med Body Soc Intern Med Urug 2019:2393–6797.