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REVIEW ARTICLE

MUCINOUS CARCINOMA, ATYPICAL CLINICAL PRESENTATION WITH THE APPEARANCE OF A PSOAS ABSCESS: CASE REPORT

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ABSTRACT

Psoas abscess is defined as the accumulation of pus in the iliopsoas muscle compartment which due to its anatomy may facilitate the spread of infections of adjacent structures or via hematogenous route from a distant site. Colorectal cancer adenocarcinomas, mucin-producing adenocarcinomas of the appendix are extremely rare at 0.2%. They can lead to the dreaded complication: peritoneal pseudomyxoma, which is an advanced stage of the disease. We present the case of a 61 year old patient with an initial diagnosis of retroperitoneal abscess apparently dependent on right psoas by tomography, which later on the surgical approach and histologically, we were confronted with a retroperitoneal mucinous carcinoma of possible appendicular origin (retrocecal appendix).

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INTRODUCTION

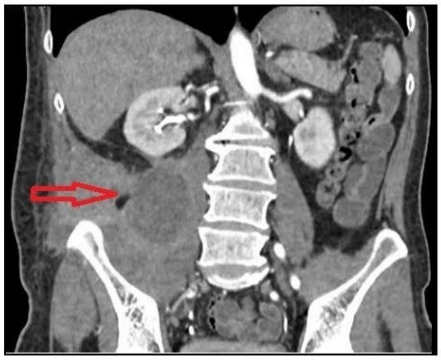
Psoas (iliopsoas) abscess is defined as the accumulation of pus in the iliopsoas muscle compartment that may arise by contiguous spread from adjacent structures or by hematogenous route from a distant site. The incidence is rare, however, with the use of computed tomography (CT) the frequency of diagnosis has increased[1]. The therapeutic option is drainage by percutaneous or surgical intervention[2]: however, there are no studies that directly compare open and percutaneous approaches, so the advantages of laparoscopy must be considered, including the extraperitoneal nature of the procedure and the ability to break loculations [3]. More than 90% of colorectal cancer are adenocarcinomas (CRC), of which many produce mucin and with ≥ 50% of the tumor mass are classified as mucinous carcinomas. This histologic type accounts for approximately 11 to 17% of all CRCs [4]
Cancer of the appendix is extremely rare; those of the primary type have an incidence of 0.15 to 0.9 per 100,000 persons[5]; most are carcinoid (65% neuroendocrine); but approximately one third are adenocarcinomas, of which 0.2% to 0.3% are mucinous; it affects men and women equally, with an average age of onset between 50 and 55 years, being predominant in the white race in 70-74%[6,7]. Differential diagnoses usually depend on histopathology[8]. Treatment histology of the disease: well-differentiated tumors clearly have a better prognosis than poorly differentiated tumors[6].

Oncologic therapy is not well defined, systemic chemotherapy and cytoreductive surgery have long been used to treat the disease[6]. We present the case of a 61-year-old patient with an initial diagnosis of retroperitoneal abscess apparently dependent on right psoas by tomography, who later on surgical approach and histologically, we were confronted with a retroperitoneal mucinous carcinoma of possible appendicular origin (retrocecal appendix). Due to the atypical presentation and rarity of the diagnosis and therapeutic management that challenged the medical team, it allowed us to make a review and some comments on this pathological entity.

Case description

A 61-year-old male patient was admitted to a private clinic in the city of Cochabamba-Bolivia with a clinical picture of approximately 2 months of evolution characterized by stabbing pain in the right flank with irradiation to the ipsilateral pelvis that increased in intensity with hip mobility, hyporexia, asthenia and progressive weight loss accompanied by febrile, chills and diaphoresis at night. Physical examination revealed: abdomen with palpable non-mobile mass in the right iliac fossa, painful on palpation, positive psoas sign, pale mucous membranes, the rest was unremarkable. Ultrasound identifies in the right lumbar region: thick liquid collection of +/- 70 cc located in the retroperitoneum surrounding the right psoas muscle. The contrasted abdomino-pelvic CT scan showed data of abscess of approximately 224 cc in relation to the right iliac psoas muscle

(Figure 1). Relevant laboratory with Hb 10.0 g/dl. Therefore, the initial diagnosis was psoas abscess.



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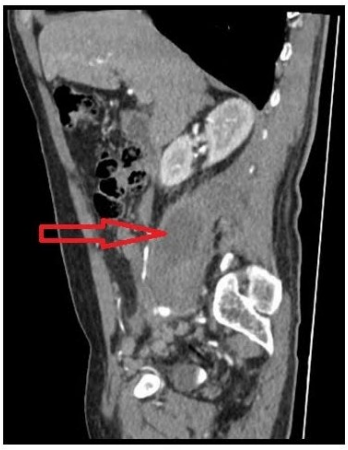

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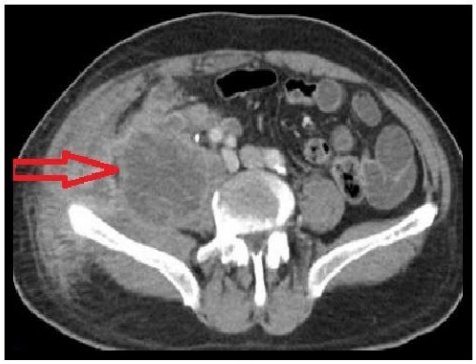

C

Figures: A: coronal plane B: sagittal plane C: Transverse plane . Tomographic data of psoas abscess: with hypodense image in the thickness of the psoas-iliac muscle, volume 376 cc, with a liquid attenuation index 20 to 40 HU, peripheral reinforcement by contrast enhancement and striation of the posterior pararenal fat

RESULTS

He was approached surgically by retroperitoneal incision Foley type with trans-surgical findings: psoas iliacus muscle of stony consistency, without fluctuating areas; at aspiration without purulent collection with slight serohematic fluid collection: no neoplastic or microbiological data. Subsequently, an inguinal exploration was performed, a transverse incision was made in the right inguinoabdominal region until reaching the extraperitoneal plane, finding an indurated area that was perforated and drained, obtaining 200 cc of "pseudopurulent" material, in addition to mucinous material that was sent to pathology, microbiology, cytology and cytochemistry and aspirated drainage was placed. The pathology report indicates: infiltrating mucinous carcinoma with adjacent foci of chronic and acute suppurative inflammation, with xanthomatous areas (the lesion may correspond to cecal appendix or colon). Neoplastic extension studies were performed, such as colonoscopy without suggestive data of malignancy. Therefore, the patient underwent diagnostic laparoscopy with a finding of cecum adhered to the pelvic wall suggestive of tumor activity, reason for which it was decided to convert to exploratory laparotomy with right hemicolectomy plus drainage of more mucinous material in retroperitoneum: finding of cecum wall adhered to retroperitoneum in which a fibrous area forming a pseudocapsule with mucinous content was found. The second pathology report indicates: Right hemicolectomy with: Invasive adenocarcinoma, with mucinous areas, moderately differentiated, exophytic, ulcerated, 40 cm in greatest diameter, at the level of the cecum in topography corresponding to the cecal appendix, invading and perforating serosa, without perineural or lymphovascular invasion, distal and proximal margins free of neoplasia, 12 nodes free of metastasis. Conclusion: Stage pT4a pN0cM0. At the conclusion of surgical management the patient was transferred to clinical oncology where he received systemic chemotherapy; with survival of one year at the date of submission of the manuscript.

DISCUSSION

The iliopsoas compartment, due to its anatomy is connected to the hip; in 15% of people may facilitate the spread of its infection[9]. Symptoms and signs include flank pain with or without radiation to the hip and/or posterior aspect of the thigh, usually increasing with extension movements "psoas sign", with limitation of hip motion being common, patients often prefer to be in a less uncomfortable position including hip flexion and lumbar lordosis; other signs include fever, groin mass, limp, anorexia and weight loss[10]. CT is optimal for evaluating psoas abscess, findings may include a hypodense focal lesion, infiltration of surrounding fat and gas or a hydroaerial level within the muscle; sensitivity is often limited in the early stages of the disease[11]. Differential diagnoses include: tuberculous origin, psoas muscle hematoma, herniated disc fragments, metastatic disease including poorly differentiated carcinoma and mucinous adenocarcinoma[12]. Therefore, it is essential to send the material for histopathological, microbiological, cytological and cytochemical evaluation, as well as to identify mycobacteria and neoplastic data[13]. In the present case, despite a clinical picture compatible with psoas abscess, it is important to always contemplate the differential diagnoses, as they are challenging to differentiate due to their rarity, which is why it is vital to study the material as described and choose the most suitable approach to obtain it, as it happened in the inguinal approach on the second attempt performed in our case. Open drainage through an extraperitoneal approach was previously the surgical intervention of choice; this may be justified in the context of a multiloculated psoas abscess, significant involvement of an adjacent structure requiring surgical treatment or a psoas abscess with a gas-forming organism [14]. In our case, the open approach allowed us to obtain tissue and mucinous material in sufficient quantity to be adequately studied by pathology.

In case of contemplating neoplastic origin, the open approach is necessary, since cytology, cytochemistry and microbiology as in this case were negative, but there was tissue necessary for histopathology that directed the performance of oncological research studies, which did not provide more evidence, and colonoscopy did not help; therefore, the laparoscopic exploration allowed us to establish a surgical planning, which due to the characteristics found demanded the open approach to allow favorable oncological results. The mucin produced by CRC adenocarcinomas can remain inside the cells (signet ring cells) or be secreted: extracellular mucin not confined within the tumor glands can facilitate dissection and penetration of a tumor through the wall. The predilection of presentation is for ascending colon and they may have little response to initial chemoradiotherapy, particularly with appendicular mucinous neoplasms[4] . They can perforate and extend into the peritoneal cavity

and lead to progressive intraperitoneal dissemination and accumulation of mucinous ascites, diffuse collections of gelatinous material in the abdomen and pelvis, and mucinous implants on the peritoneal surfaces with neoplastic cells[15,16]. It is important to recognize this dreaded complication of pseudomyxoma peritonei (PMP) which is an advanced stage of the disease[17,18]. In relation to this case, we wonder if what was observed on CT was a retroperitoneal pseudomyxoma, which was most likely contained in a pseudocapsule (probably formed by a desmoplastic reaction of the muscle and surrounding fasciae) without the typical peritoneal presentation of mucinous implants, the adjacent retroperitoneal muscles and structures were not involved. Regarding prognosis, mucinous dissemination is an independent factor, as PMP formation and morphologic evidence of suspected infiltration around abdominal organs indicate a poor prognosis[8,17,19]. However, the pseudocapsule found and the disease-free margins, probably the present case has a different outcome than an intraperitoneal PMP, encouraging us to contemplate a different and more favorable prognosis, so we will continue to monitor the patient's evolution.

Significantly, metachronous or synchronous primary neoplasms, particularly affecting the gastrointestinal tract, are common in patients with appendicular tumors[17]. The clinical presentation can be: an appendicitis, mucocele, cystic dilatation due to accumulation of gelatinous material, progressively to an abdominal/pelvic mass, or an incidental finding in some type of imaging study. We suspected from the topography of the histopathological evidence, that the neoplastic origin from the retrocecal appendix, also because there was no intraluminal involvement of the cecum or appendiceal vestiges. Therefore, we also asked the patient if he had any clinical picture similar to a retrocecal appendicitis, to which he answered yes and was managed by empirical antibiotherapy approximately 6 years ago without imaging evaluation; Imaging plays an important role in the diagnosis of asymptomatic neoplasms, which at an early stage could have been identified as a mucocele or cystic dilatation of the appendix and would have opened doors for studies of disease extension allowing the detection of local invasion, imminent or real rupture and metastatic dissemination of these tumors. CT allows us to better demonstrate simple mucoceles, as cystic structures of low attenuation, well encapsulated, peripherally enhanced, with a smooth wall of variable thickness[17,20]. Simple mucoceles may have an appearance similar to cystic lymphangioma, mesenteric cyst, enteric duplication cyst, Meckel's diverticulum which should be considered[17]. Surgical treatment depends on the dimensions and histology of the mucinous neoplasm, as well as the clinical presentation, in relation to PMP the natural history is one of indolent but progressive growth, and if left untreated, it is a fatal condition. While some consider the standard treatment to be periodic surgical reduction of symptomatic disease, this treatment is not curative but is intended to relieve symptoms by resection of macroscopic disease to limit mucus accumulation and its pressure effect[18]. In these cases clear communication between the radiologist, pathologist and surgeon is important for optimal patient management. Mucinous appendiceal neoplasms belong to a group of neoplasms with the lowest incidence rate among all tumors of the digestive tract. Therefore, the rate of misdiagnosis is high; its appearance may be related to long-term inflammation and infiltration of the appendix [8,21,22], and as in this case if it evolves over time, perforation of the appendix by the neoplastic content has repercussions on the clinical presentation and oncologic outcome as in two entities: intra or retro peritoneal. Half of the cases are asymptomatic, are detected incidentally and usually remain stable for many years[17,23]. As in this case, prospective clinical diagnosis of mucinous neoplasms is often difficult.

CONCLUSION

In conclusion, this is a case of mucinous adenocarcinoma of the appendix presenting atypically as a psoas abscess with progressive enlargement over time that simulated a psoas abscess despite imaging. Therefore, it is important to contemplate the differential diagnoses for a retroperitoneal mass, to perform the described protocol of studies and a serial oncologic surveillance. All this will reduce morbidity, trans or post-surgical complications as well as choosing the best surgical approach that positively affects the development and outcome of the disease. Finally, we share with the scientific community the concern regarding the possible different outcome between this intraperitoneal or retroperitoneal disease.

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