A Retrospective Study about 10 Cases of Abdominal Tumor-Like Tuberculosis

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Abstract

Abdominal tuberculosis can involve any organ of the abdominal cavity and take uncommon aspects whether clinically or radiologically. The tumoral-like aspect of the tuberculosis is very peculiar, rare, and may be misleading a malignant tumor pathology, as the symptoms evolve in the context of a general state inflexion.

The authors report a series of 10 cases of pseudotumoral abdominal tuberculosis, studied in the department of general surgery of military hospital Avicenne – Marrakech, within a period of 9 years, underlining the epidemiological and clinical peculiarities of this condition, as much as the diagnosis and the therapeutic management.

Key Words: Abdominal Pseudotumoral Tuberculosis; Diagnosis; Laparotomy; Anatomopathology

Introduction

Tuberculosis remains a public health problem in both, developing and developed countries, because of the spread of the HIV epidemic [1], precariousness, immigration and resistance to antituberculosis drugs [2]. In cases of pseudotumoral aspects, both the absence of specific symptoms and the existence of an abdominal mass, together with the degradation of the patient general state may mislead a malignant tumor pathology [3].

This diagnosis, though very misleading and often overlooked, should be taken into consideration, mostly in cases of an epidemiological context [4], a pulmonary affection, or tuberculosis antecedents.

The authors report a retrospective study of 10 cases of abdominal pseudotumoral tuberculosis in immuno competent patients at the general surgery department of Marrakech military hospital, within a period of 9 years, underlining the epidemiological and clinical peculiarities of that association as much as diagnostic and therapeutic management.

Methods

We have conducted an analytic descriptive and retrospective study of 10 cases of abdominal pseudotumoral tuberculosis at the surgical department of Marrakech military hospital, within a period of 9 years, between January 2007 and December 2015.

We excluded from this series, the patients with genitourinary tract infection or with are troperitoneal allocation notably renal.

Results

Ten cases of abdominal pseudotumoral tuberculosis were identified in our department, which represents 23.8% of the cases of abdominal tuberculosis. The average age was 37.5 years with a sex ratio of 1.8 mostly living in urban areas.

Nine patients were properly vaccinated and none of them reported any pulmonary tuberculosis antecedent, or any notion of tuberculosis exposure or HIV infection.

The clinical signs were progressive in all the patients with huge polymorphism. In fact, anorexia and weight loss were noticed in 90% of the cases, fever in 60% of the cases, abdominal pain in 80% of the cases, intestinal transit disorders in 70% of the cases and only one case of night profuse sweating. However, an abdominal mass was found by clinical exam in 30% of our patients.

Biological investigations showed microcytic hypochromic anemia and a nonspecific inflammatory reaction in 70% of our patients.

Moreover, tuberculin skin test was performed in 80% of patients and was positive in only 25% of the cases.

The lung X-ray was performed in all patients and revealed pleural effusion in 40% of the cases and pachypleuritis in 20% of the cases.

In our study, an abdominal ultrasound was performed in 90% of our patients which revealed an abdominal mass in 40% of the cases. This mass was at the expense of the mesentery, the tail of the pancreas, at the left flank and at the right iliac fossa. As cites was identified in half of the cases.

The computed tomography (CT) of the abdomen, which is the key examination and most reliable imaging technique, was performed in 90% of patients, raising somewhat the mystery of the abdominal mass nature in each case, simplifying the diagnostic process.

The different injuries found were tumor of the greater omentum, antropyloric tumor, and ileocaecal mass, adenopathy cluster, spleen nodules, liver nodules and peritoneal macro nodules. Moreover, as
cites was present in 60% of the patients, hepatomegaly in 20% of patients, splenomegaly in only one case and deep lymph nodes in half of the cases (Figure 1).

Barium enema was performed in one patient showing, thus a vegetant lesion in the sigmoid colon, which was attached in apple core with the rest of the colon (Figure 2). Then, a colonoscopy was performed in this patient showing an ulcerated and burgeoning lesion in the sigmoid colon, which reduced the lumen suggesting at first a colic tumor. Biopsies were performed there.

Gastroduodenal endoscopy was performed in 30% of the patients and showed, in only one case, an impassable pyloric stenosis. Biopsies were then also realized there.

Seventy-percent of the patients underwent laparotomy. The lesions turned out to be peritoneal nodules (57.14% of the cases), peritoneal effusion (85.7% of the cases), clustered bowel loops (14.28% of the cases), a diffuse inflammatory aspect of the peritoneum (71.4% of the cases) and lymphadenopathy (14.28% of the cases) (Figure 3).

The remaining thirty-percent of our patients have undergone a percutaneous biopsy with computerized tomography.

Anatomopathological examination of the biopsies has proved the existence of caseating epithelioid cell granulomas in 60% of the cases, non-caseating granulomas in 20% of the cases and a case of follicular granulomatous lymphadenitis in 20% of the cases (Figure 4).

Bacteriological tests were realized in no more than 70% of the patients and were confirmed in 40% of the cases (only 10% through biopsies and sputum culture, and 30% through biopsies culture, but in no case by as cites culture).

Ant tuberculosis chemotherapy was introduced in all patients and we had to make surgical treatment in 30% of the patients.

Splenectomy was performed in one patient, sigmoidectomy with colorectal anastomosis in another one, and ileocecal resection with restoration of continuity in the third patient.

Fifty-percent of our patients had a favorable clinical outcome within a twelve-month observation under treatment. Yet, 30% of the patients had experienced a relapse that required a second hospitalization keeping the same therapeutic protocol. They all had then a favorable outcome within a year observation.
To note that 20% of the patients have never given sign after the first hospitalization.

**Discussion**

Tuberculosis is defined as a contagious infection caused by Mycobacterium tuberculosis also called Koch's bacillus. Used to be called white plague, this scourge has been known since the beginning of humanity. It is currently in progress in developing countries, due to demographic upsurge and AIDS pandemic. Topographically, the pulmonary localization of tuberculosis is estimated approximately at 70% and can be associated to other systemic injuries. The abdominal location is ranked at fourth place, behind lung damage, lymph nodes, and osteo-articular injuries. The abdominal tuberculosis is characterized by the diversity of clinical and paraclinical signs. It may concern peritoneum, gastrointestinal tract, abdominal lymph nodes, liver, spleen and pancreas [5]. The gastrointestinal involvement may be primitive by direct ingestion of mycobacterium tuberculosis or secondary to huge bacillus lung lesions through blood or lymphatic system [6]. The hypertrophic tumor-like form is most often primitive [7]. This form affects young adults between 20 and 40 years [8]. The intestinal locations are more likely found in women [9]. According to our study, the mean age was 37.5 years and both genders were affected equally. The tumor-like aspect is reported in only 5% of the cases of abdominal tuberculosis [4]. In our series, it represents 23.8% of all the cases of abdominal tuberculosis examined so far. The clinical features of abdominal tuberculosis are not very specific. They may show as a weight loss (80%), low-grade fever (66%), a painful abdominal bloating (100%), constipation (40%), as cites (40 to 100%), and diarrhea (15 %) with sometimes dysenteric syndrome (5%) [10]. Sometimes, complications may be revealing such as perforation, occlusion, hemorrhage or malabsorption especially in ileocolic injuries [10]. Biological abnormalities guide the diagnosis even though they are mostly nonspecific. A biologic inflammatory syndrome made of high sedimentation rate, elevated inflammatory proteins and anemia is often related to the disease [11,12].

Tuberculin skin test can be positive in some series in half of the cases [13]. In our series, it was positive in 25% of our patients. Chest X-ray is useful to prove a secondary injury [14]. Abdominal ultrasound and CT are an important step in the diagnosis procedure of the tumor-like forms [7]. The intestinal damage prevails at the ileocaecal fold and is presented as agglutinated loops with concentrically thick wall [7]. When that concentric wall thickening is eccentric and has an extrinsic exophytic development, it can simulate more a tumor than an inflammatory disease [7]. This thickening may be heterogeneous with hypodense foci related to caseous necrosis [7]. The diagnosis of tuberculosis remains difficult, and the ileocaecal junction lesions can mimic other diseases such as Crohn's disease, neoplasia, or an appendicular tumor [7]. The tuberculous disease may also affect any segment of the digestive tract. It is often represented by agglutinated loops, digestive parietal infiltration with hypertrophic peritoneal nodules, and a cluster of deep lymph nodes, especially mesenteric ones. But this aspect may not figure and facing an eccentric hypertrophic irregular digestive infiltration, a tumoral origin is often mentioned [4]. The lymph node localization in intra-abdominal tuberculosis can also be the cause of pseudotumoral aspect. It can be lymphadenopathy clusters of agglomerated small satellites of a digestive lesion, peri-pancreatic or hepatic pedicle. Yet, it orientates more often, due to the site of injury, to malignant pathology [15].

Solid organs tuberculosis in its hepatosplenic single or multiple macro-nodular forms can simulate a primary or secondary malignant tumor [15]. Exceptional forms of peritoneal tuberculosis such as the fibro-adhesive and the ulcerative caseous forms can also give a tumor-like aspect [4]. The fibro-adhesive form, suggests the
differential diagnosis with carcinoid tumors [7]. The contribution of MRI in the abdominal location is not specific. This type of medical imaging technique shows hypo intense T1 lesions with variable T2 signal in the lymph node and visceral involvement [7]. Faced with a highly suggestive aspect of imaging, a workup should begin to track other sites that may assist the diagnosis. If in doubt, guided puncture under ultrasound or CT control with histological study allows the diagnosis [4].

Endoscopic examinations lead to realization of biopsies with histological and bacteriological (culture) studies and then prevents morbidity and mortality related to laparotomy [16,17].

BK detection by “polymerase chain reaction” (PCR) on biopsies allows a high diagnostic sensitivity (75 to 80%) and high specificity (85 to 95%) [16].

Laparotomy is often the only recore in case of negativity of echo-guided or CT-guided punctures [4]. Indeed, 20 to 40% of the patients [18] will undergo a laparotomy. In our study, 70% of the patients have benefited from exploratory laparotomy.

The treatment is mainly surgical. SUTHERLAND [19] reported on 25 years of study, a rate of 87.7% cure only by medical treatment. Surgical treatment should not be first line because of the risk of digestive fistulas and postoperative complications. However, unfortunately, the preoperative diagnosis is difficult and sometimes, we are forced to make a surgery especially when suspecting malignancy or lymphoma. Surgery, therefore, keeps its place in case of complications: obstruction, perforation, peritonitis, abscesses, fistula stenosis, bleeding, compressive or fistulized mass and this, to treat definitely some caseified cavities or in after-effect fibro-adhesive tuberculosis peritonitis, responsible for occlusive syndromes [4,7].

Conclusion
If there is one thing we should learn from this study, it must be the largest clinical and radiological polymorphism of the pseudotumoral abdominal tuberculosis. There is, so far, no specific biological marker of this disease and bacteriological samples are often negative and sources of delay in diagnosis due to the slowness of cultures. Hence the undeniable interest of laparoscopy, an exploration that allows not only access the tumor to identify its nature and look for associated macroscopic aspects suggestive of tuberculosis, but allows to make biopsies for the purpose of histobacteriological study, which, as we know, is the only guarantee of certainty of the diagnosis and thus, an optimal treatment.

Contribution of Authors
All authors contributed to the writing of this manuscript and read and approved the final version.

References