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Abdominal tuberculosis in a low prevalence country

Tuberculose abdominale dans une région de faible prévalence tuberculeuse

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Abstract

Objective. – Abdominal tuberculosis is a rare disease. The clinical and radiological manifestations are non-specific and the diagnosis is difficult. Our objective was to describe the characteristics and treatment of patients presenting with abdominal tuberculosis in a low-incidence country.

Patients and methods. – We reviewed the clinical, diagnostic, treatment, and outcome features of patients presenting with abdominal tuberculosis diagnosed by bacteriological and/or histological results and managed in five French university hospitals from January 2000 to December 2009.

Results. – We included 21 patients. The mean diagnostic delay was 13 months. Twelve patients (57%) came from a low-incidence area and only two had a known immunosuppressed condition. Eighteen patients (86%) presented with abdominal symptoms. The main organs involved were the peritoneum ($n = 14$, 66%), the mesenteric lymph nodes ($n = 13$, 62%), and the bowel ($n = 7$, 33%). Sixteen patients (76%) underwent surgery, including two in an emergency setting. Seventeen patients (81%) received six months or more of anti-tuberculosis treatment. Finally, 16 patients (76%) had a positive outcome.

Conclusion. – New diagnostic procedures, and especially molecular biology, may help diagnose unusual clinical presentations of tuberculosis. Invasive procedures are frequently necessary to obtain samples but also for the treatment of digestive involvement.

Keywords: Mesenteric lymphadenitis; Peritonitis; Tuberculosis

Résumé

Objectifs. – La tuberculose abdominale est rare, le tableau clinico-radiologique aspécifique et le diagnostic difficile. Notre objectif était de décrire les caractéristiques et la prise en charge thérapeutique de patients présentant une tuberculose abdominale dans un pays où la prévalence de cette infection est faible.

Patients et méthodes. – Nous avons recueilli les données cliniques, diagnostiques, thérapeutiques et le suivi des patients atteints de tuberculose abdominale, diagnostiquée sur des arguments bactériologiques et/ou anatomopathologiques, et pris en charge dans cinq hôpitaux universitaires français de janvier 2000 à décembre 2009.

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Résultats. – Vingt et un patients ont été inclus. Le délai diagnostique moyen était de 13 mois. Douze patients (57 %) étaient originaires d'une zone de faible prévalence de la tuberculose et seulement deux patients étaient immunodéprimés. Dix-huit patients (86 %) présentaient des symptômes abdominaux. Les principaux organes atteints étaient le péritoine ($n = 14$, 66 %), les ganglions mésentériques ($n = 13$, 62 %) et le tube digestif ($n = 7$, 33 %). Une intervention chirurgicale a été nécessaire chez 16 patients (76 %), en urgence pour deux d'entre eux. Dix-sept patients (81 %) ont reçu au moins six mois de quadri-thérapie antituberculeuse. Au final, 16 patients (76 %) présentaient une évolution favorable.

Conclusion. – Les nouvelles techniques diagnostiques, notamment la biologie moléculaire, peuvent être utiles pour le diagnostic des formes cliniques inhabituelles de tuberculose. Des explorations invasives sont souvent nécessaires pour obtenir des prélèvements, mais aussi pour la prise en charge thérapeutique de l'atteinte digestive.

Mots clés : Adénopathies mésentériques ; Péritonite ; Tuberculose

1. Introduction

The incidence of extrapulmonary tuberculosis (TB) has risen along with the incidence of TB. Extrapulmonary lesions are diagnosed in 22% of patients followed for TB in Europe and 27% in France [1,2]. As the definition of abdominal TB is not consensual, its frequency is not well known, but less than 2% of patients presenting with TB and from 1 to 6% of those presenting with extrapulmonary TB have abdominal involvement [3,4]. There are no accurate guidelines for the diagnosis of abdominal TB [5–8]. Only a few observational studies from highly endemic countries are available and data concerning patients in low-incidence countries is scarce. Several questions regarding the challenging diagnosis and treatment of this disease thus remain unexplored or unanswered. We conducted the study to describe the clinical presentations of abdominal TB, the diagnostic and therapeutic procedures, as well as the clinical outcomes in France.

2. Material and methods

The medical records of all patients presenting with abdominal TB diagnosed over a ten-year period (January 2000–December 2009) in five university hospitals of the Eastern Region of France (Dijon, Lyon, Nancy, Reims, and Strasbourg) were retrospectively reviewed and included in the present study. The presence of TB was suspected on clinical data (abdominal pain, altered bowel habit, and clinical ascites) and/or imaging features of abdominal infection. It was confirmed by positive culture or PCR of *Mycobacterium tuberculosis* complex from abdominal organ tissue or peritoneal fluid, and/or by histopathology showing a tubercular granuloma (with or without necrosis) in the absence of an alternative diagnosis. Positive culture or PCR of *M. tuberculosis* complex was not available for six patients. In these cases, the histopathological examination performed on abdominal tissue (mesentery, peritoneum, liver, bowel) led to the identification of granulomas and the outcome was obviously improved by anti-tuberculosis chemotherapy. Abdominal TB was defined as TB infection in the gastrointestinal tract, peritoneum, intra-peritoneal lymph nodes, or intra-peritoneal solid organs (pancreas, spleen, liver), with or without associated extra-abdominal infection. Genitourinary tuberculosis was not considered in the present study.

The demographic data, underlying diseases, clinical manifestations, laboratory data, diagnostic investigations, therapeutic management, and outcomes of each patient were recorded and analyzed. Outcome assessment was based on clinical follow-up and imaging. Clinical improvement included weight gain, abdominal symptom disappearance, and apyrexia.

3. Results

3.1. Demographics

We included 21 patients presenting with abdominal TB in the study. The median age was 51 years (range: 20–85) and the male-to-female ratio was 0.75 (9/12). Ten patients were born in Metropolitan France, two in other low-incidence areas (Portugal, French Polynesia), and the nine remaining patients came from endemic areas (six from Africa, two from Eastern Europe, and one from Southern Asia).

Only two patients had a known immunosuppressed condition: one was treated with TNF-alpha antagonist for spondyloarthritis and one had diabetes mellitus. One patient presented with alcohol abuse without cirrhosis. HIV serology was available in only 17 patients, none of them being HIV-infected.

3.2. Tuberculosis history and clinical presentation

Two patients had a previous history of tuberculous disease and two a previous history of primary tuberculous infection. Four patients reported contact with a person presenting with TB.

Clinical manifestations were heterogeneous. Most patients presented with constitutional symptoms, i.e., fever ($n = 12$, 57%) and/or weight loss ($n = 16$, 76%), ten of whom had lost more than 10% of their normal weight. Eighteen patients complained of abdominal symptoms (86%), mainly abdominal pain ($n = 14$, 67%), clinical ascites ($n = 7$, 33%), and altered bowel habit ($n = 3$, 15%). Only eight out of 20 patients (40%) complained of respiratory symptoms. The tuberculin skin test was positive in four of the 10 patients for whom it was available.

Mean time from symptom onset to diagnosis was nearly 13 months (range: 3 weeks to 6 years). Diagnostic delay was longer than one month in 15 patients (71%).