Pseudotumoral Form of Peritoneal Tuberculosis: A Case Report

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Introduction :

Pseudotumoral pelvic tuberculosis is a rare form of tuberculosis, accounting for 1 to 2% of all tuberculosis cases [1]. Its clinical presentation is highly diverse and nonspecific, often leading to confusion with ovarian malignancy. Symptoms such as pelvic pain, masses, ascites, and weight loss can be present in both conditions. Additionally, laboratory tests, ultrasound, CT scans, and magnetic resonance imaging lack specific diagnostic value. We present a new case of peritoneal tuberculosis that mimicked advanced ovarian cancer and, through a review of the literature, examine the diagnostic and therapeutic challenges associated with this condition.

Patient and observation:

Mrs. L.H., a 21-year-old single woman, with a family history of uterine fibroma (in her aunt) and a father who was treated for pulmonary tuberculosis 30 years ago and declared cured, was admitted to our department for management of chronic abdomino-pelvic pain, associated with anorexia and a general decline in her health. Upon admission, clinical examination revealed a malnourished patient with a BMI of 13.6 kg/m^2, a slightly distended abdomen, and dullness in the flanks. Abdominopelvic ultrasound identified a bilateral, latero-uterine mass of ovarian origin, accompanied by low-grade ascites. Further abdominal-pelvic MRI raised suspicion of a bilateral ovarian mass, classified as ORADS 5, with a small amount of effusion. A thoraco-abdomino-pelvic CT scan revealed no pulmonary abnormalities but showed latero-uterine masses, pelvic iliac and lumbo-aortic lymphadenopathy, peritoneal nodules, and a small effusion. CA125 levels were elevated at 139 UI/ml (normal value < 35 UI/mL), while other tumor markers (alpha-fetoprotein, HCG) were within normal ranges. Additional lab results showed an inflammatory syndrome, with a CRP of 112 upon admission (normal value <5 mg/L), and microcytic hypochromic anemia (hemoglobin at 8g/dL) (normal value 12-16 g/dl). Given these findings, a neoplastic origin, particularly ovarian cancer, was initially considered. An exploratory median laparotomy was performed to investigate the mass seen on imaging, assess its nature, and obtain biopsies for further diagnosis. However, the laparotomy revealed a shielded and adherent pelvis, complicating the exploration. Dissection of the anterior peritoneum uncovered diffuse peritoneal inflammation, multiple whitish peritoneal and omental lesions, and a purulent abscess in the Douglas cul-de-sac and left latero-uterine region. Several biopsies were taken from the peritoneum and abscess walls, and bacteriological samples of the pus were collected. Extensive lavage and drainage with O2 Delbet slides were performed. The extemporaneous pathological examination revealed epithelioid and giant-cell granulomas with caseous necrosis, suggesting peritoneal tuberculosis. The patient was started on antibacterial treatment following the 2REHZ/4RH regimen. Her condition

improved spectacularly under treatment, with both clinical and biological improvement observed within the first month. Continuous monitoring during a two-year follow-up showed complete resolution of symptoms and peritoneal effusion, with the patient regaining weight. Abdomino-pelvic imaging performed one year post-treatment showed complete resolution of previously noted lesions.

Figure 1: Abdominal distension with the scar of exploratory laparotomy performed on the patient, with pus discharge

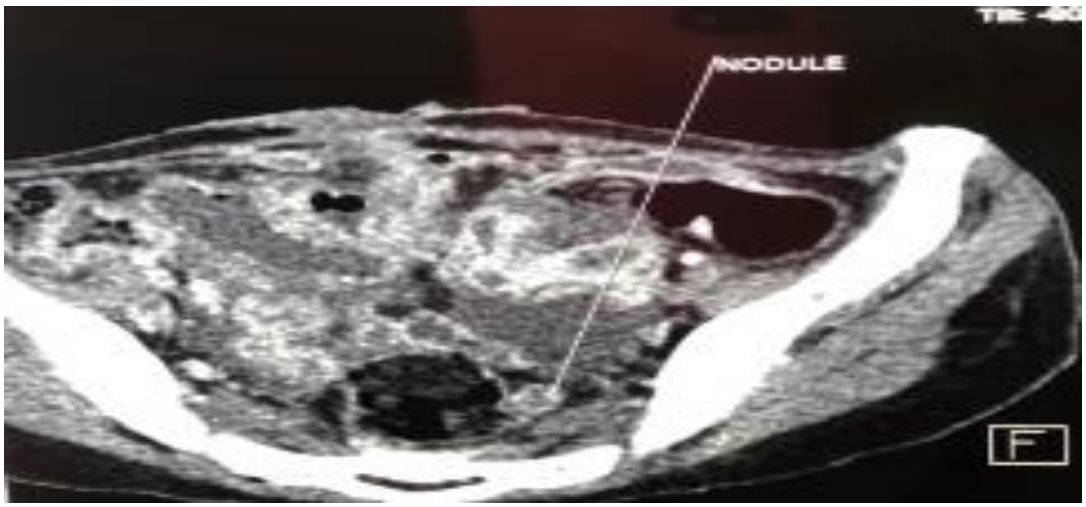

Figure 2: an axial image showing a pelvic nodule in the right iliac fossa with hyperemia of the adjacent structures, suggestive of a peritoneal tuberculoma.

Discussion:

Peritoneal tuberculosis is a major public health concern in developing countries, caused by the pathogenic agent Mycobacterium tuberculosis. The pseudotumoral form of peritoneal tuberculosis is a rare condition, representing only 2% [1]. It primarily affects young women between the ages of 20 and 50 living in endemic regions [2]. Factors such as inadequate vaccination, poor hygiene, overcrowding, and unfavorable socio-economic conditions contribute to the spread of tuberculosis. Peritoneal infection can occur through hematogenous spread or primarily from a primary pulmonary or digestive infection. The clinical and paraclinical presentations are diverse and may be misleading, resembling an ovarian or other pelvic tumor. The clinical signs are nonspecific, including abdomino-pelvic pain, abdominal distension, weight loss, and the palpation of an abdominopelvic mass, which are common to both conditions. Both can be significant causes of morbidity, especially infertility[1]. Concomitant pulmonary or digestive involvement can help guide diagnosis, but it is not always present and may be overlooked in 30-50% of cases, as in our patient's case.

Imaging techniques, including pelvic ultrasound, CT scans, or MRI, are not particularly effective in differentiating ovarian tumors from genital tuberculosis [3]. However, the presence of peritoneal adhesions, ascites with septations, peritoneal nodules with necrotic centers and heterogeneous enhancement, and abdominal lymphadenopathy with hypodense foci related to caseous necrosis, along with pleuroparenchymal sequelae from pulmonary tuberculosis, can suggest tuberculosis [4]. As for biological markers, an elevation of CA125 is not specific, as it can be increased in ovarian cancer, various benign gynecological conditions (such as endometriosis and uterine fibroids), and also in peritoneal tuberculosis [5]. Very high levels (>1000 U/ml) may be observed in the latter case. Consequently, CA125 is not useful for distinguishing between ovarian cancer and peritoneal tuberculosis, though it is valuable for monitoring treatment. Other biological abnormalities, including anemia, lymphopenia, and inflammatory syndrome, are not specific and may be found in various other conditions [6].

Surgical exploration, either by laparoscopy or laparotomy with extemporaneous biopsies, is required to establish a diagnosis in over 97% of cases [7]. Genital tuberculosis is treated with medications. A six or nine-month treatment regimen is effective for female genital tuberculosis. As per our national TB-protocol, he treatment regimen consists of two phases: an intensive two-month phase using rifampicin, isoniazid, pyrazinamide, and ethambutol, followed by a four-month maintenance phase with rifampicin and isoniazid. The outcome is usually favorable under medical treatment, and surgical intervention is rarely needed. The prognosis of pelvic tuberculosis is primarily associated with infertility in young women, with an estimated risk of 39% [1] .TB is a preventable disease mainly through vaccination with the Bacillus Calmette-Guérin vaccine, chemoprophylaxis for contacts, and improved hygiene practices for at-risk populations [8].

Conclusion:

Pelvic pseudotumoral tuberculosis is a diagnosis to be considered in the presence of any ovarian mass associated with peritoneal effusion, especially in endemic countries like

ours or in presence of signs of extra-abdominal. Exploratory laparotomy or laparoscopy with extemporaneous examination enables the diagnosis to be made in the majority of cases, particularly when cytology and culture of the ascites puncture fluid are negative. Antibacillary treatment usually offers clinico-biological improvement, avoiding unwarranted excision surgery.

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