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Perspective

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Magnetic Resonance Evaluation of Abdominal Tuberculosis

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Introduction

Tuberculosis destroys around 1.7 million people every year around the world, and the number of new cases (about 9 million) is at an all-time high. Tuberculosis has been linked to poverty, deprivation, and immunodeficiency in the past. The lungs are the most commonly affected organs, with abdominal involvement occurring in roughly 11-12 percent of extra pulmonary tuberculosis patients. The gastrointestinal system, genitourinary tract, solid organs (liver, spleen, and pancreas), gallbladder, aorta and its branches, peritoneum, and lymph nodes may all be involved in the abdominal presentation, often with concomitant involvement of those organs. Lymphoma, Crohn's disease, amebiasis, and adenocarcinoma are among the illnesses that the disease might mimic. Imaging findings are not pathognomonic, but when combined with clinical signs, immunological circumstances, and the patient's demographic origin, they might be highly indicative of disease [1].

Abdominal TB can damage almost every intracavitary organ and cause a wide range of symptoms. The primary symptoms and imaging findings in a series of 49 patients with abdominal TB. Fever (75%) was more common than abdominal pain (65%), and weight loss (36%) was more common than other signs and symptoms. Peritonitis (38%) was the most common tomographic finding, followed by lymph node disease (23%), gastrointestinal tract involvement (19%), and solid organ involvement (19%). (10 percent). The most common pattern of lymph node commitment was a diffuse pattern (48 percent). The terminal ileum and the ileocecal area were the most noticeably altered in the gastrointestinal system (50 percent). The liver and spleen stood out among the solid organs.

The most prevalent form of abdominal tuberculosis is peritoneal tuberculosis, which involves the peritoneal cavity, mesenterium, and omentum. It is thought to have a hematogenous origin, but it could also be caused by lymph node rupture, gastrointestinal dispersion, or tubal involvement [2]. It is most likely the outcome of mesenteric lymph node rupture caused by hematogenous dissemination of a distant main focus (usually located in the lungs). Direct extension and the lymphatic chain are two more accepted dissemination methods. Infection of the genitourinary tract is a rare cause. Despite the difficulties in distinguishing between the many abdominal tuberculosis presentations, as well as a significant overlap in presenting patterns, peritoneal tuberculosis is traditionally categorised into three categories based on macroscopic features, namely dry, moist, and fibrous varieties. The wet form is characterised by free or loculated ascites, which may or may not be coupled with diffuse and smooth peritoneal thickening; the dry type is characterised by peritoneal and mesenteric thickening, caseous nodules, lymph node enlargement, and fibrinous adhesionsThe fibrous variety on the other hand, is characterised by mental thickening and tangling of intestinal loops, clinically resembling a tumour, occasionally with loculated ascites, and may be confused with peritoneal carcinomatosis. Lymph node involvement is most typically associated with gastrointestinal tuberculosis, but it can also be the only evidence of disease, especially in the periportal region [3]. The lymphatic drainage of the ileocecal, jejunal, ileal, and right colonic areas after ingestion of infectious material may explain the most prevalent involvement of lymph node chains (mesenteric, celiac, portal hepatis, and per pancreatic lymph nodes). After intravenous contrast injection, the lymph node disease pattern is diverse on CT, most commonly displaying lymph node enlargement (40-60%) with hypo attenuation in the center and hyper attenuation in the periphery, which is typical but not pathognomonic of caseous necrosis. The key differential diagnoses are lymphoma, metastases, pyogenic infection, and Whipple's illness. Other lymph node involvement patterns include a rise in the number of lymph nodes without an increase in their volume, as well as massive, localized lymph node clusters and conglomerates.

References

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