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Research Article

Hepatic tuberculosis: a diagnostic challenge

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Abstract: Hepatic tuberculosis is a rare form of extra-pulmonary tuberculosis ***The aim:*** to describe the clinical, morphological and evolutionary aspects of hepatic tuberculosis. ***Methods:*** The medical data of all cases of hepatic tuberculosis admitted to our department. ***Results:*** Among the 240 cases of abdominal tuberculosis, 6 patients had a hepatic location with a prevalence of 2.5%. They were 2 men and 4 women, with an average age of 38 years. The clinical and imaging manifestations were various. The diagnosis of tuberculosis was confirmed by the pathological study of the liver biopsies (4cases) or by the association of clinical, biologic and morphological arguments (2cases). The clinical and biological course was favorable in all patients under anti-tuberculosis protocol. ***Conclusion:*** Hepatic tuberculosis, although rare, should be considered in endemic countries. Its diagnosis is difficult to establish, because it simulates many pathologies.

Keywords: hepatic tuberculosis, image-guided fine needle aspiration biopsy, epithelioid-gigantocellular granuloma with caseous necrosis.

INTRODUCTION

Hepatic tuberculosis is a rare form of extra-pulmonary tuberculosis (Singh, S. *et al.*, 2012). The value of its knowledge lies in the diagnostic problems it poses, even in endemic areas.

The aim of this work was to describe the clinical, morphological and evolutionary aspects that this form of tuberculosis can take.

PATIENTS AND METHODS

This is a retrospective study spanning 10 years (2010–2019) including all cases of hepatic tuberculosis admitted to our department. The diagnosis was made on histological data. In their absence, it was focused on a range of clinical, bacteriologic, biologic and morphological arguments.

RESULTS

During the study period, 240 patients were admitted for abdominal tuberculosis, 6 of which had a hepatic location, a prevalence of 2.5%. They were 2 men and 4 women, with an average age of 38 years. The clinical picture was dominated by pain in the right hypochondrium which was found in 5 patients. Signs of tuberculous impregnation were reported by 4 patients. Hepatomegaly was found in 3 patients. The biological assessment showed an inflammatory syndrome in 4 patients and anicteric cholestasis in 3 patients. The tuberculin IDR was positive in 2 cases. The Quantiferon test was realized for 4 patients and was positive in all cases.

Imaging revealed a multi-nodular liver with deep lymphadenopathy in all six patients. 4 patients underwent an image-guided fine needle aspiration biopsy; however the other two patients had moderate-abundant ascites, prompting a laparoscopic exploration after negativity of the aetiological assessment. The diagnosis of tuberculosis was confirmed by the pathological study of the liver biopsies demonstrating epithelioid-gigantocellular granuloma with caseous necrosis in 4 cases and without caseous necrosis in 2 cases. An extrahepatic tuberculous localization was found in 4 patients: lymph node (1 case), peritoneal (2 cases) and pulmonary (1 case). The clinical and biological course was favorable in all patients under anti-tuberculosis treatment.

DISCUSSION

Hepatic tuberculosis is the most common hepatic granulomatosis of infectious origin. It can be primary, occurring in the absence of a history of tuberculosis and without other detectable associated diseases. This form is extremely rare even in endemic countries. It often produces deceptive pseudo-tumor aspects. The diagnosis with certainty is generally made

by pathological study of ultrasound-guided biopsies. The secondary form is more common. It accompanies generalized tuberculosis or localized to another organ (Dafiri, R., & Imani, F. 2001).

Three macroscopic lesional forms are described in the liver:

- **Macronodular form:** very rare, most often seen in immunocompromised patients. It is characterized by the presence of tuberculomas which probably result from the coalescence of multiple tuberculous granulomas. They are regular, of variable size, generally greater than 2cm, surrounded by a thick sclerotic shell sometimes calcified, and truffle the hepatic parenchyma.
- **Micronodular or miliary form:** includes almost all cases of hepatic tuberculosis. It is either primary or secondary to miliary tuberculosis with hematogenous insemination. It is characterized by the presence of multiple nodules about 2 mm in diameter, gray-white scattered on the surface and in the depth of the liver. The liver usually maintains a normal size and morphology.
- **Canalicular form:** is exceptional, this is a suppurative cholangitis in which tuberculous lesions are limited to the bile canaliculi (Dafiri, R., & Imani, F. 2001; & Ndiaye, A. R., & Klotz, F. 2012).

Hepatic tuberculosis does not give typical clinical manifestations or imaging. It may present with common clinical complaints with mild fever, pain in the right hypochondrium, hepatomegaly, asthenia, night sweats, etc (Amarapurkar, D. N. *et al.,* 2008; Reed, D. H. *et al.,* 1990; Spiegel, C. T., & Tuazon, C. U. 1984; Singh, S. *et al.,* 2012; Manoj, E. M. *et al.,* 2012; Hsieh, T. C. *et al.,* 2011; & Bharathi, A. *et al.,* 2008). Jaundice, caused by compression or tuberculous involvement of the bile ducts, is easily confused with hilar tumors, and some cases may be associated with portal hypertension or bleeding from the bile ducts (Arora, R. *et al.,* 2008; & Mojtahedzadeh, M. *et al.,* 2012).

Hepatic TB should be suspected in the following conditions: previous medical history of tuberculosis or contact with tuberculosis, mild fever, night sweat, fatigue, weight loss, jaundice, hepato-megaly with or without splenomegaly or lymph-adenopathy, liver tenderness; an elevated adenosine deaminase and positive tuberculin test.

Image examination associated with image-guided fine needle aspiration biopsy is the best diagnostic method (Reed, D. H. *et al.,* 1990; Yu, R. S. *et al.,* 2004; Cao, B. S. *et al.,* 2010; & Kok, K. Y., & Yapp, S. K. 1999).

The association of isoniazid, rifampin, pyrazinamide, and ethambutol is the recommended anti-tuberculosis protocol because of the increasing incidence of drug-resistant tuberculosis. At least 1 year of medical therapy is generally required (Mert, A. *et al.,* 2003).

With early diagnosis and prompt effective treatment, the prognosis of hepatic tuberculosis is usually good. Surgical procedures along with anti-tubercular drug therapy could be adopted in case of a bile duct compression or difficulty to diagnose.

CONCLUSION

Hepatic tuberculosis, although rare, should be considered in endemic countries. Its diagnosis is difficult to establish, because it simulates many pathologies. The imaging data are not specific but their comparison with epidemiological, clinical and biological data can guide the diagnosis. However, its confirmation remains pathological.

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