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A Rare Case of Hepatic Visceral Larva Migrans

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Abstract **Case Report**

A systemic manifestation of nematode second-stage larvae migrating through the tissue of human viscera is termed visceral larva migrans (VLM). Although frequent, it is underdiagnosed in developing nations. Due to its portal venous blood supply, the liver is the organ that is affected the most frequently. The imaging results are subtle, making it challenging to distinguish them from granulomatous disorders, metastases, cystic mesenchymal hamartomas, and hepatocellular carcinoma (HCC). This case report includes clinical and laboratory information that aids in the diagnosis as well as imaging characteristics of hepatic lesions of VLM. It presents as coalescing and or conglomerated lesion(s) in the liver on imaging.

Keywords: hepatic visceral larva migrans, Magnetic Resonance Imaging, coalescing conglomerated lesions, albendazole, eosinophilia, pyogenic liver abscess.

CLINICAL HISTORY

A 46-year-old man who had no prior history of fever appeared with right hypochondrium pain that had persisted for six months. Analyses of the blood revealed eosinophilia. ELISA for toxocara was positive. A test of liver function revealed normal results. MRI, USG, and cytology were carried out. Afterward, the patient was diagnosed to have hepatic visceral larva migrans. For eight weeks, the patient was treated with 400 mg of albendazole tablets. The patient's symptoms were relieved. A follow-up MRI was performed six months later.

IMAGING FINDINGS

USG suggestive of multiple ill-defined coalescing lesions are seen in segments VI, VII, and the caudate lobe of the liver. The First CE-MRI abdomen was done, and it showed multiple ill-defined T2 hyperintense lesions are seen in segments VI, VII and the caudate lobe, getting coalescent, the largest coalescent lesion in segment VII of the liver. On Diffusion-weighted images, it shows diffusion restriction with corresponding low values on ADC map. On post-contrast images, it shows peripheral enhancement. Follow-up MRI was done after 6 months, it showed multiple ill-defined T2 hyperintense lesions are seen in segments VI, VII, and the caudate lobe, getting coalescent, the largest coalescent lesion in segment VII of the liver. On Diffusion-weighted images, it shows diffusion restriction with corresponding low values on the ADC map. As compared to baseline MRI, there is a reduction in the size of the lesion without complete resolution.

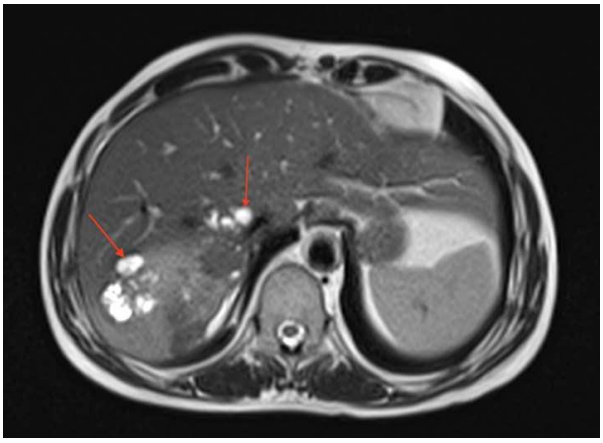

Figure 1: Shows multiple ill-defined T2 hyperintense coalescing lesions in segment VII

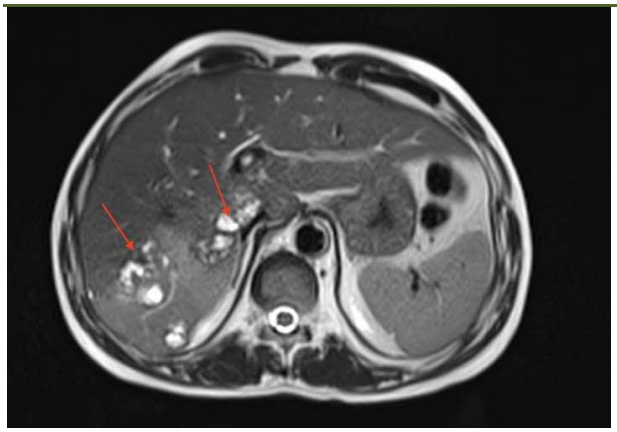

Figure 2: Shows multiple ill-defined T2 hyperintense coalescing lesions in segment VI and the caudate lobe of the liver

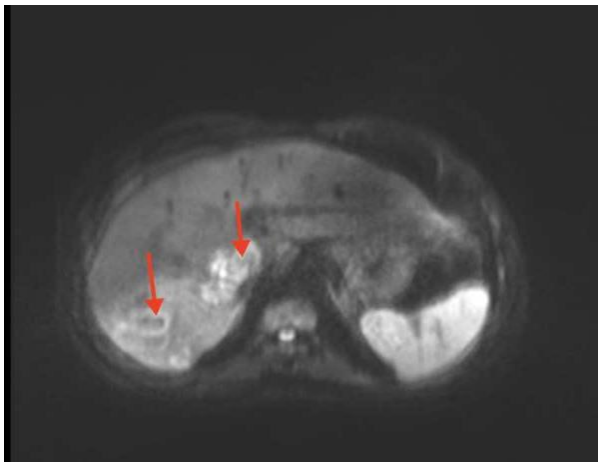

Figure 3: The lesion shows restricted diffusion on DWI images

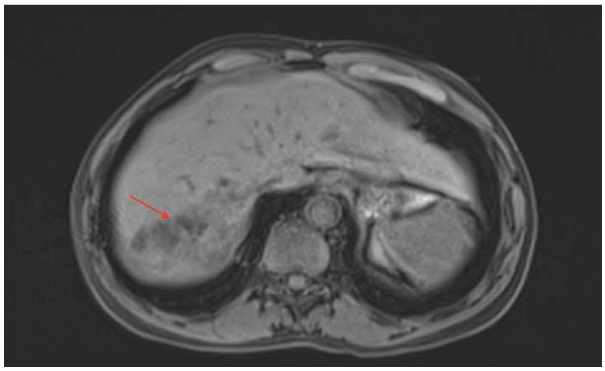

Figure 4: Shows multiple ill-defined T1 hypointense coalescing lesions in segment VII of the liver

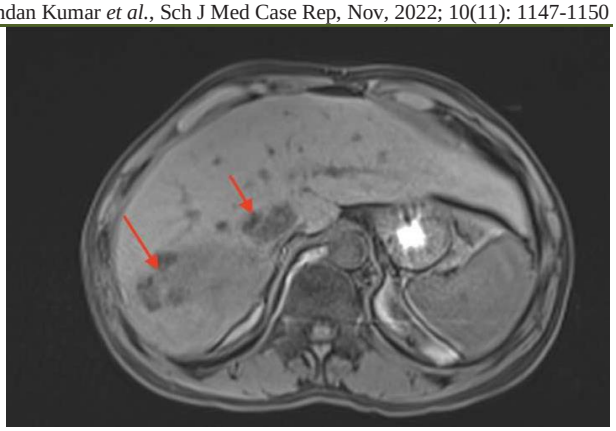

Figure 5: Shows multiple ill-defined T1 hypointense coalescing lesions in segment VI and caudate of the liver

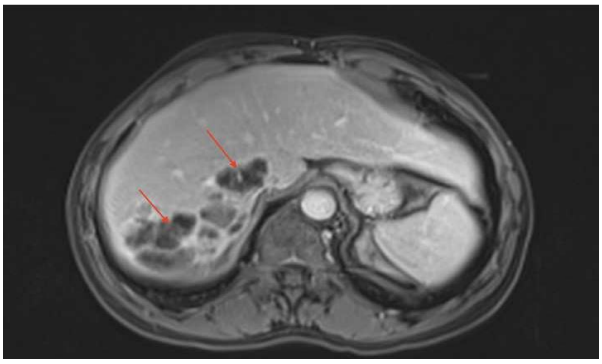

Figure 6: Shows peripheral enhancement of lesion in segment VII of liver

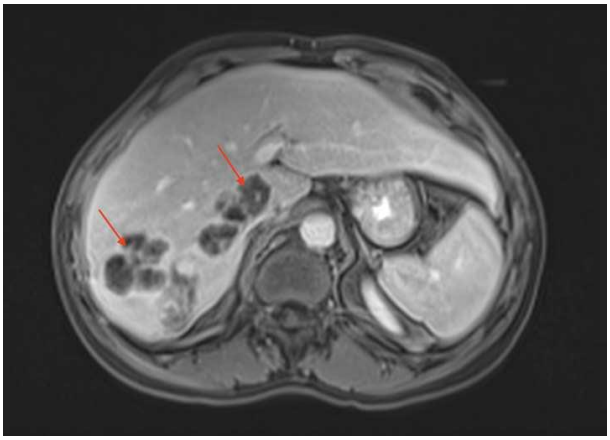

Figure 7: Shows peripheral enhancement of lesion in segment VI and the caudate lobe of the liver

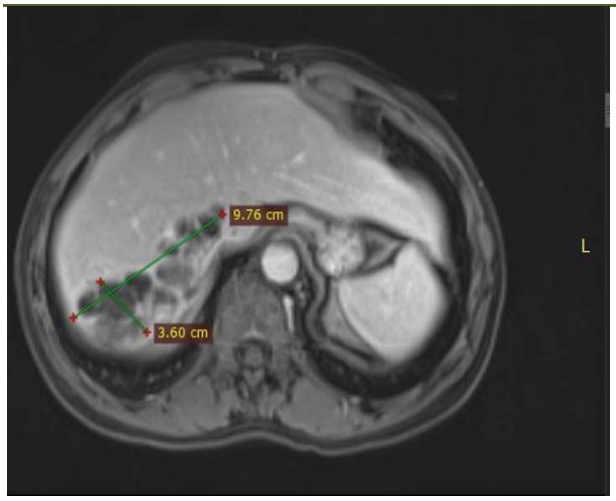

Figure 8a: Shows measurement of baseline MRI in segment VII of liver

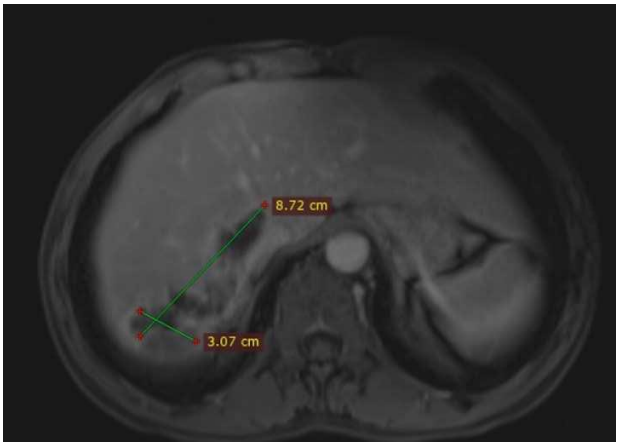

Figure 8b: Shows measurement of follow up scan after 6 months, as compared to fig 8 there is reduction in size of the lesion in segment VII of liver

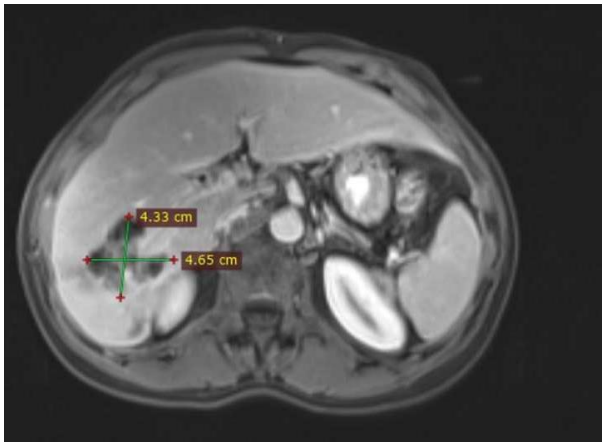

Figure 9a: Shows measurement of baseline MRI in segment VI of liver

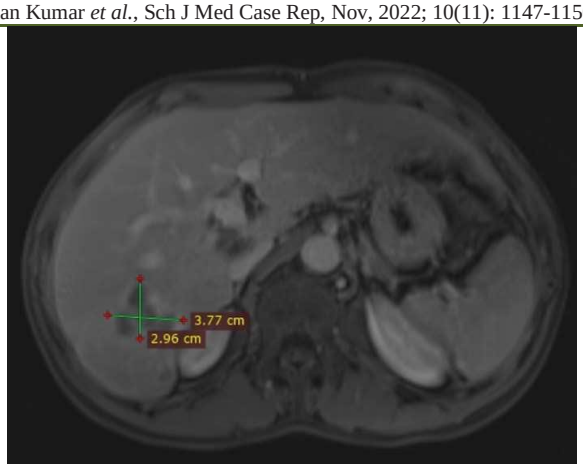

Figure 9b: Shows measurement of follow up scan after 6 months, as compared to fig 9 there is reduction in size of the lesion in segment VII of liver

DISCUSSION

Visceral larva migrans (VLM) are used to describe the migratory larva stage of nematodes in human beings. Dogs and cats are the most common primary hosts for the disease-causing nematodes Toxocara canis and Toxocara cati respectively. Lesser known and uncommonly found parasites such as Capillaria hepatica, Ascaris suum, Baylisascaris procyonis as well as Ancylostoma species also infect human beings and cause similar disease patterns, particularly, in the liver [1-3]. Accidental ingestion of embryonated eggs found in the soil or of halted second-stage nematode larvae from animal host tissues that are ingested as meat is the two main ways that humans become infected. This path is comparable to the parasitic invasion of main animal hosts like dogs and cats. The swallowed eggs or larvae can only develop into migratory larvae, which are then released into the small intestine, as humans are not the primary hosts of these creatures. From there, they pass through the intestinal walls into the portal venous system and spread throughout the body to infest the liver, lungs, brain, heart, and eyes [4, 5]. VLM appears as eosinophilic granulomas in the liver. This medical condition presents as a less common form of parasitic liver abscesses. Necrotizing liver lesions include eosinophilic abscesses and granulomas. They present as diffuse, clumping, and occasionally distinct focal lesions with imaging characteristics that resemble cystic/liquefied mass lesions or nonspecific abscesses. On subsequent imaging, these lesions may occasionally progressively alter shape and location, which is consistent with the presentation of migrating larva disease [6]. On contrast-enhanced computed tomography (CT) or magnetic resonance imaging (MRI), these lesions have imaging characteristics such as poorly defined enhancing walls of liquefied conglomerating lesions that may be oval, rounded, or asymmetrical and are most prominent in the venous and equilibrium phases [6]. These abscesses have a distinct MRI characteristic known as a hyperintense rim on T1-weighted sequences, which

corresponds to a diffusion restriction on echo planar imaging.

Take Home Message: Hepatic visceral larva migrans will show regression of lesion but not resolution on follow-up images.

Final Diagnosis: Hepatic visceral larva migrans.

Differential Diagnosis List: Pyogenic abscess

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