

**EOSINOPHILIC LIVER ABSCESS - INFECTIVE V/S NEOPLASTIC LIVER LESION, A  
DIAGNOSTIC DILEMMA – A CASE REPORT****Dr. Anagha Joshi<sup>1</sup>, Dr. Kushal M. Bidichandani<sup>2\*</sup>, Dr. Anjali Amarapukar<sup>3</sup> and Dr. Ashwini Sankhe<sup>3</sup>**<sup>1</sup>Professor and Head, Department of Radiology, LTMMC and GH – Sion, Mumbai, Maharashtra, India.<sup>2</sup>Junior Resident, Department of Radiology, LTMMC and GH – Sion, Mumbai, Maharashtra, India.<sup>3</sup>Professor, Pathology Department of Radiology, LTMMC and GH – Sion, Mumbai, Maharashtra, India.<sup>4</sup>Asst Professor, Department of Radiology, LTMMC and GH – Sion, Mumbai, Maharashtra, India.**\*Corresponding Author: Dr. Kushal M. Bidichandani**

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**ABSTRACT**

Infective liver lesions especially eosinophilic liver abscesses can sometimes mimic malignant liver lesions and it is important to differentiate between these two as management are poles apart. We report a case of a 25-year-old man who presented with a 1-week history of right upper quadrant abdominal pain with ill-defined liver hypodensities.

**KEYWORDS:** Eosinophilic liver abscess, Ultrasound, CT Abdo, MRI.**INTRODUCTION**

Eosinophilic organ infiltration has been described secondary to identifiable causes such as drug hypersensitivity, allergic diseases, malignancies, hypereosinophilic syndrome, collagen vascular diseases, and, most commonly, to parasitic infections. Hepatic eosinophilia, or eosinophilic granuloma, has been more frequently encountered since the rise in popularity of computed tomography (CT) scans. Nonetheless, in clinical practice, underlying causes are often difficult to identify. Radiographic findings may mimic hepatic metastasis, leading to substantial diagnostic work-up. Clinical diagnosis is usually based on a combination of clinical symptoms, medical history, laboratory abnormalities, and imaging findings after exclusion of common identifiable causes. However blood eosinophils are necessarily always not elevated.

**CASE REPORT**

A 25-year-old woman presented after 10 days of persistent right upper quadrant and epigastric abdominal pain that started. She complained of subjective fever. She denied sick contacts, contact with domestic animals, or recent travel. Her past medical history was not significant and she denied any use of medications.

On physical evaluation, the patient was mildly febrile (99.3<sup>0</sup> F) with an abdomen tender to palpation in the right upper quadrant and epigastric region. Initial laboratories showed leukocytosis associated with marked eosinophilia, with a white blood cell count of 13,200/ $\mu$ L with almost normal eosinophil count. Liver enzymes and alkaline phosphatase were mildly elevated. Chest x-ray revealed clear and well-expanded lungs, with no consolidates or effusions.

**Figure I****Figure II****Figure III**

Transabdominal USG (Figure I to III) abdomen was performed which revealed a heterogenous predominantly hyperechoic lesion with surrounding mild hypo echoic collection in segment VI of liver with an arterial feeder passing through it.<sup>[4]</sup>

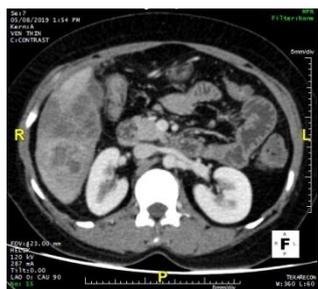


Figure IV

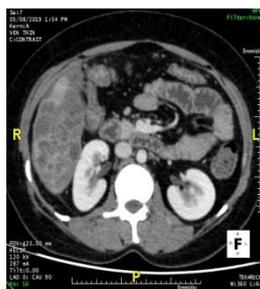


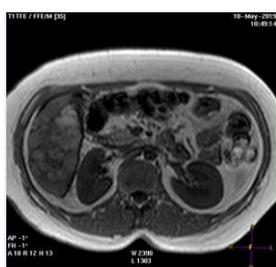
Figure V



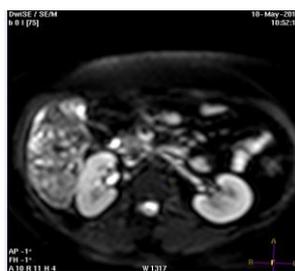
Figure VI

Abdominal Contrast CT (Figure IV to VI) revealed heterogeneously enhancing lesions (mainly mild

peripheral enhancement) in the liver with multiple (< 2 cm), non-enhancing hypodensities within the centre.<sup>[3,4]</sup>



(T1 W)  
Figure VII



(DWI)  
Figure VIII



(T2 W)  
Figure IX



(T1 W + C)  
Figure X



(T1 W + C)  
Figure XI



(T1 W + C)  
Figure XII

MRI shows multi-lobulated confluent T1 hyperintense and T2 heterogeneously iso to hyperintense lesion is seen predominantly in segment VI. Mild adjacent capsular

retraction is seen. On post contrast study, it shows peripheral enhancement.<sup>[3,4]</sup>

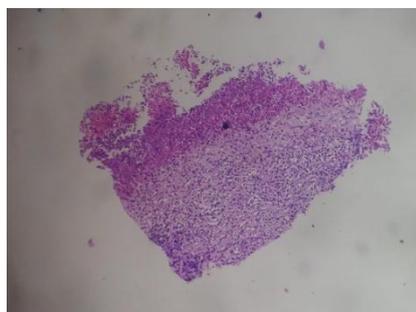


Figure XIII

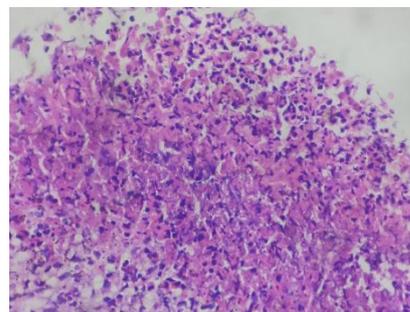


Figure XIV

Liver biopsy demonstrated mild chronic inflammation with eosinophilic infiltration,<sup>[6]</sup> (Figure XIII and XIV)

on two examinations separated in time by at least one month and/or pathologic confirmation of tissue hypereosinophilia. In our case, the blood eosinophils levels were not significantly raised; the pathologic examination of the liver biopsy confirmed the diagnosis of hypereosinophilia. Every organ can be involved; in our case the CT scan revealed nodular lesions in liver.<sup>[3,4]</sup>

**DISCUSSION**

Hypereosinophilia in the peripheral blood is defined as an absolute eosinophil count of more than 1500 cells/ $\mu$ l

Those lesions indicate an active disease condition, justifying therapy with corticosteroids in case of lack of spontaneous regression.

In this case, the diagnosis was put on the wrong track by misinterpreting the CT scans, unfortunately, leading to an anxious patient and a second (unnecessary) liver biopsy. The challenge in this case is to distinguish eosinophilic lesions in the liver from metastatic liver disease, which is especially important in patients with a known primary tumor. On CT, in the portal venous phase, the eosinophilic lesions and malignant nodules are both low-attenuation lesions. Eosinophilic lesions are characterized by multifocal, small (< 2 cm) oval or round lesions with irregular margins, whereas malignant nodules are usually (but not necessarily) significantly larger and well-circumscribed.<sup>[1,2]</sup> More helpful than morphologic features is correlation with lab testing and follow-up. Follow-up CT typically shows regression or disappearance of the eosinophilic lesions, whereas malignant nodules generally progress. On MRI, the two entities appear quite similar and diffusion-weighted imaging may not be helpful to differentiate these hepatic lesions.

## CONCLUSION

Eosinophilic disease is a rare condition that may mimic liver neoplasm / metastases. We as radiologist should be aware of the existence of this condition and add it to the list of rare differential diagnostic considerations, particularly in patients normal tumor markers. CT findings in favor of eosinophilic lesions include multifocal, small (<2 cm) oval or round lesions with irregular margins. Imaging-guided biopsy together with correct interpretation of imaging findings and follow-up allow correct diagnosis. Especially in patients with concurrent neoplastic disease, this may avoid misdiagnosis and even unnecessary chemotherapy.

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