



Skull metastasis with orbital invasion as the primary manifestation of Hepatocellular carcinoma

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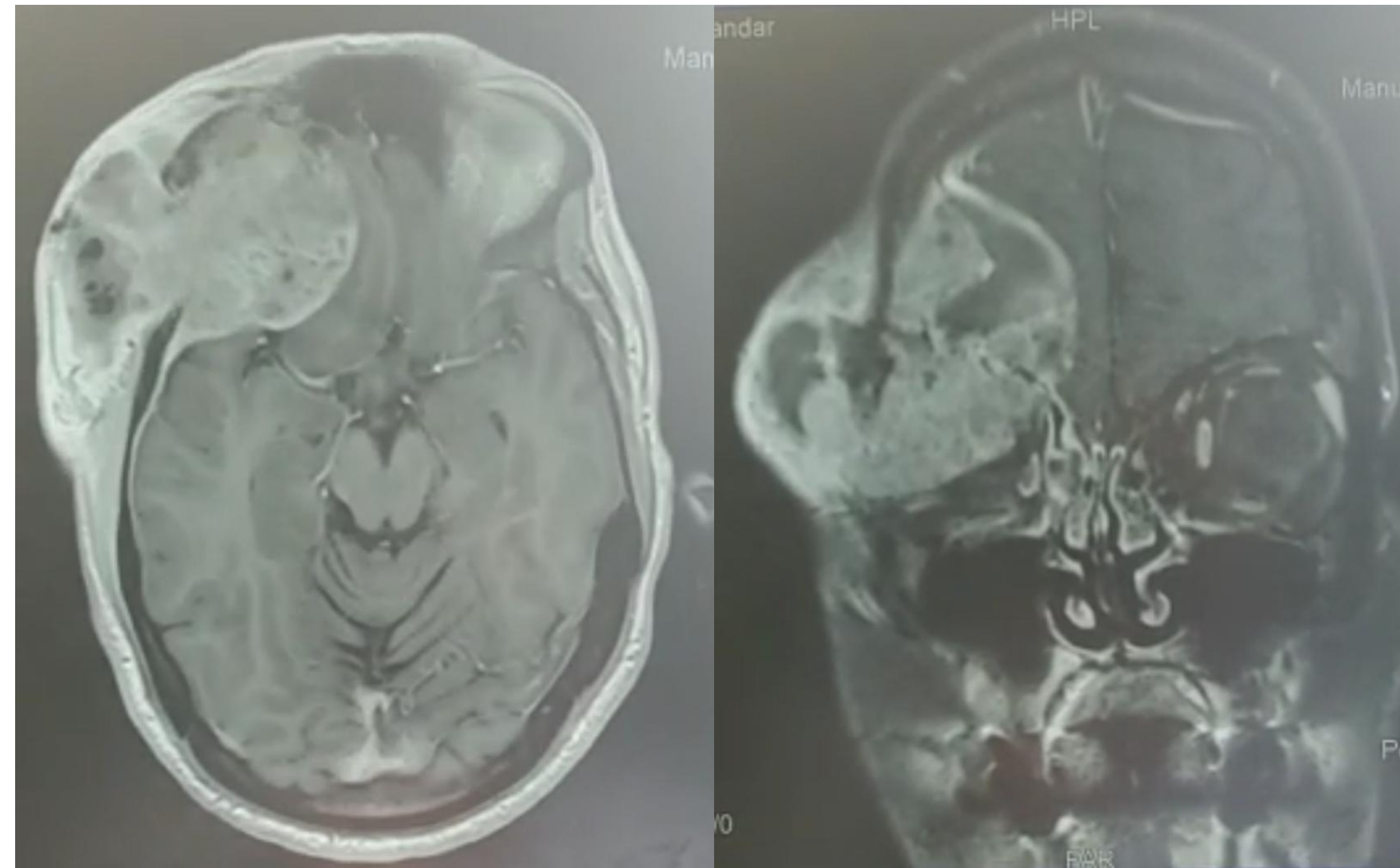
Introduction

Hepatocellular carcinoma (HCC) is a common cancer worldwide with poor prognosis despite advances in treatment. Patients usually present signs and symptoms pertaining to the liver. While HCC metastases are reported as low as 5%, the most common locations of HCC metastases are the lung, lymph nodes, bone and adrenals. Herein, we describe a case of HCC that presented with skull metastases with orbital invasion as the initial manifestation.

Case Description

A 40-year-old male with past medical history of B-cell non-Hodgkin lymphoma in remission since the age of 15 and chronic untreated Hepatitis C presented complaining of a right temporal mass. Initially, the patient noticed a painless right temporal swelling which enlarged rapidly over several weeks, he eventually had worsening symptoms, including right eye proptosis, pain, blurry vision, and headache. He was evaluated by multiple medical professionals before eventually referred to our hospital. On physical evaluation, the patient exhibited gross deformity of the right upper face and temporal area, with 7*5 cm temporal swelling of ill defined mass, with significant right eye proptosis, fixed eye movements, and upper and lower eyelid erythematous swelling. Brain MRI (Figure 1) identified a 7.5 cm right frontotemporal destructive mass involving the sphenoid orbital region extending into intracranial and extracranial soft tissue. Biopsy demonstrated cells positive for hepatocyte specific antigen (HSA), Arginase, and Glypicans 3 with few cells positive for alpha fetoprotein and CD10. Serum alpha fetoprotein level was 1280. Whole-body computed tomography (CT) revealed significant liver cirrhosis with ill-defined enhancing lesions in hepatic segments 7 and 8 with no evidence of metastasis. Liver MRI (Figure 2) showed liver cirrhosis with four right lobe lesions. Peritoneal tapping was negative for malignancy. During the hospital course, the patient suffered from a sudden massive upper GI bleeding and passed away before receiving any treatments for HCC.

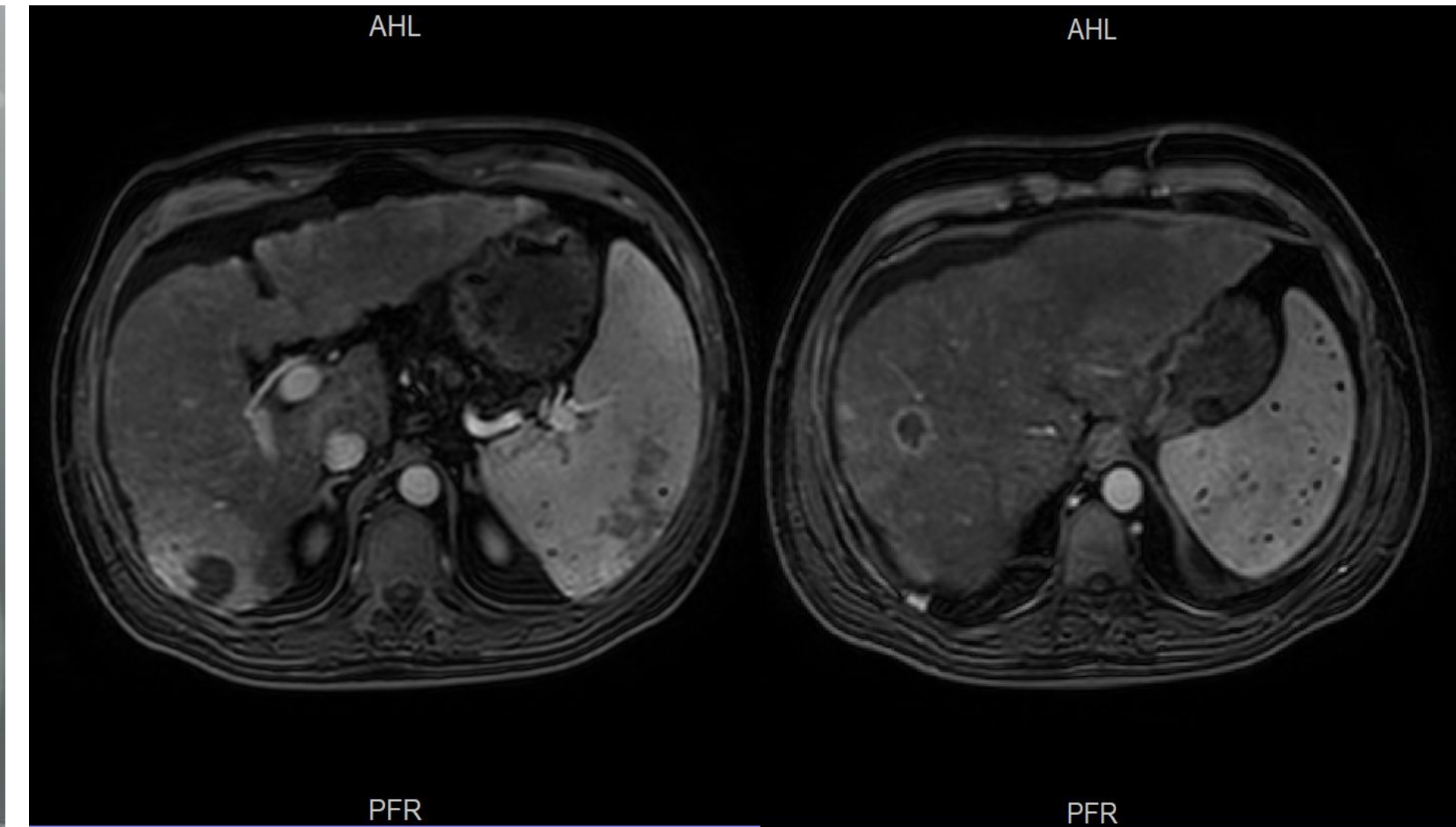
Figure 1: Brain MRI, Axial (left), Coronal (right) view



Discussion

- Bone metastasis of HCC is third most common extrahepatic site of metastasis following lungs (34%-70%), regional lymph nodes (16%-40%), and the usual sites of bone metastasis are vertebral column, pelvis, femora and ribs, with less than 1.6% of skull metastasis being reported(1)
- The most common clinical manifestations of HCC skull metastasis were found out to be a subcutaneous mass with occasional painful sensation (57%), neurological deficits and cranial nerve palsies (51%), headache (15%) and seizures (3).
- In a literature review study, showed 24 cases with the skull metastases as the first symptom from HCC, 17 of the 24 cases were misdiagnosed due to the lack of proper attention to the increasing incidence of skull metastasis of abdominal malignancies including HCC(1,2).

Figure 2: Abdominal MRI with Contrast



Learning-points

- The presentation of malignancies is often vague and unpredictable, it can lack alarming symptoms which leads to late presentations
- We expect an increase in the prevalence of such condition, as also indicated in the literature, through history and exam with proper assessment of the clinical picture; a skull lesion can be the leading clue of HCC
- We hope that physicians consider HCC metastasis as a differential diagnosis in patients presenting with skull lesions

References:

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