

# Skull Metastasis in a Patient with HCC

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## INTRODUCTION

- Hepatocellular carcinoma (HCC) rarely metastasizes to the skull. The prevalence of skull metastasis in HCC has been described to be 6.1%.
- Cranial nerve deficits are seen in more than a third of patients presenting with skull metastasis.
- We present a patient with a diagnosis of HCC with a concomitant soft tissue mass at the clivus concerning metastatic HCC.

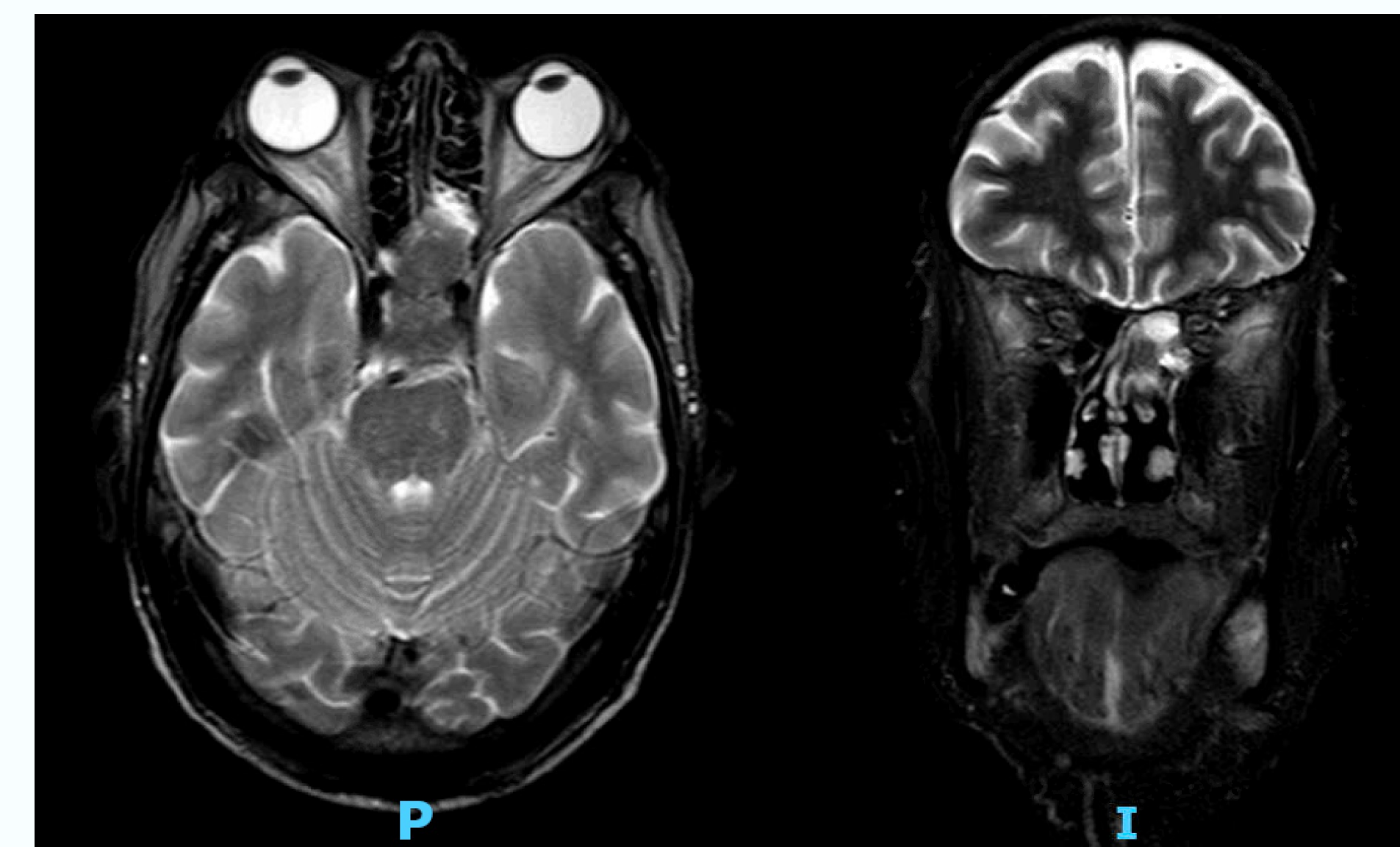
## CASE PRESENTATION

- A 62-year-old male with a medical history of cirrhosis secondary to hepatitis C, arterial hypertension and type 2 diabetes mellitus who arrived to our institution due to 5-day history of progressive abdominal swelling and distension.
- Patient also referred having intense left-sided headache and visual disturbances, described as "double vision," three months before arrival.
- Physical exam showed an uncomfortable, acutely ill, with a temporal wasting patient. HEENT exam revealed the inability to abduct his left eye—suggestive of cranial nerve VI palsy—and tongue deviation to the right side.
- Abdominal exam showed a soft and depressible abdomen, with flank dullness and mild abdominal tenderness to palpation.
- Imaging workup included a brain MRI which showed a soft tissue mass at the clivus extending superiorly to the suprasellar region invading the sphenoid sinuses. (Figure 1)
- Abdominopelvic CT scan revealed a cirrhotic liver with associated portal hypertension, a large infiltrative right liver lobe LR-TIV observation due to hepatocellular carcinoma (HCC), and celiac lymph node findings concerning for metastatic disease. (Figure 2)
- Management strategies include performing a diagnostic and therapeutic paracentesis which yielded results concerning portal hypertension. (Table 1)
- Neurosurgery service evaluated the patient and recommended radiotherapy without further neurosurgery management. The patient was eventually discharged home with multidisciplinary follow-up.

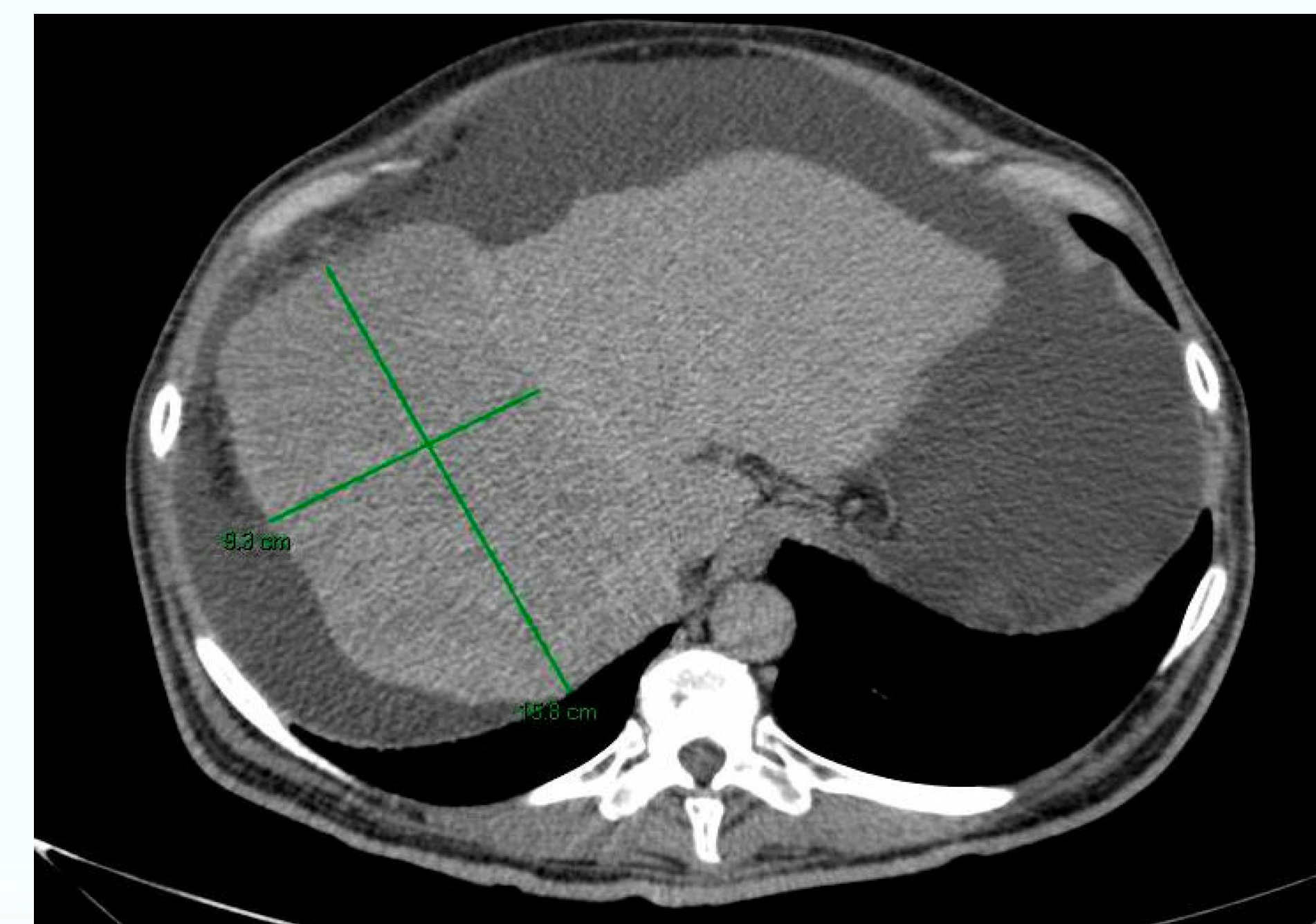
## DISCUSSION

- Skull metastasis from HCC is uncommon; but it is notorious for affecting the patient's prognosis and quality of life.
- Therefore, it is important to make an early diagnosis and properly manage skull metastasis from HCC.

## IMAGING STUDIES



**Figure 1.** Brain MRI showing a mass (T1 isointense/T2 hypointense enhancing) central at the clivus extending superiorly into the suprasellar region, invading the sphenoid sinuses with portions of the mass seen in the vicinity of the sphenoidal recesses. It envelops the osseous sella, extending into both cavernous sinuses with encasement of the left carotid artery.



**Figure 2.** Abdominal imaging showing a cirrhotic liver with an heterogeneously enhancing infiltrative lesion, involving the entirety of the right liver lobe. Other findings not shown in this figure included: extension of tumor into the right/main portal and distal superior mesenteric, as well as the splenomesenteric confluence, and lymph nodal metastatic disease; constellation of findings compatible with LR-TIV, definitely due to HCC.

## ANCILLARY STUDIES

Lab	Result	Reference Range
<b>Ascitic Fluid (~4.5 L removed)</b>		
Color/appearance	Yellow/clear	
Fluid Glucose	267 mg/dL	
Fluid Total Protein	< 2.4 g/dL	
Fluid Albumin	0.6 g/dL	
Fluid LDH	42 U/L	
Fluid WBC	67 cells/uL	
Fluid Polynuclear WBCs	25.4%	
<b>Serum Chemistry</b>		
Sodium	133 mmol/L	136 – 145
Potassium	5.1 mmol/L	3.5 – 5.1
Chloride	99 mmol/L	98 – 107
Carbon Dioxide	19.6 mmol/L	22 – 29
Blood Urea Nitrogen	35.6 mg/dL	8.0 – 23.0
Creatinine	1.18 mg/dL	0.67 – 1.17
Glucose	290 mg/dL	70 – 100
Total Protein	7.0 g/dL	6.4 – 8.3
Lactate Dehydrogenase	242 U/L	135 – 225
Total Bilirubin	0.52 mg/dL	0.1 – 1.2
AST	58 U/L	< 40
ALT	48 U/L	< 40
Albumin	3.0 g/dL	3.5 – 4.5
Alpha Fetoprotein	1,703.2 ng/mL	0.0 – 8.0
Hepatitis C Antibody	Reactive	Non-Reactive

**Table 1.** Laboratory results of paracentesis procedure performed and relevant serum chemistry results.

## CONCLUSION

- This case exhibits the importance of considering the skull and brain metastases of a hepatocellular when evaluating a patient with HCC with neurological symptoms.