

SOLITARY SCALP METASTASIS- A RARE PRESENTATION OF HEPATOCELLULAR CARCINOMAEdwina Vasantha William¹, Nagalekshmi Ganesan², Uma Balakrishnan³, Karthikeyan Rajashekar⁴¹Associate Professor, Department of General Surgery, Tirunelveli Medical College and Hospital.²Assistant Professor, Department of General Surgery, Tirunelveli Medical College and Hospital.³Postgraduate Student, Department of General Surgery, Tirunelveli Medical College and Hospital.⁴Postgraduate Student, Department of General Surgery, Tirunelveli Medical College and Hospital.**ABSTRACT****BACKGROUND**

Hepatocellular Carcinoma (HCC) is one of the more common cancers in the world. Distant metastasis is one of the most important prognostic factors. Extrahepatic metastases most commonly involve the lungs, regional lymph nodes and bone is less common.

CASE PRESENTATION

A 70-year-old female presented with a painless parieto-occipital scalp lump of 10 days duration with rapid enlargement. Her skull x-ray showed a lytic lesion over occipital bone and the contrast CT scan of the brain showed a scalp mass with destruction of the adjacent skull. FNAC of the lesion revealed a metastatic deposit from an unknown primary. Contrast CT of the abdomen revealed a liver mass, which ultrasound-guided cytology revealed to be hepatocellular carcinoma. Patient was treated with sorafenib.

CONCLUSION

Primary presentation with skeletal metastases are rare in HCC with only a few reported cases. Even then, a skull metastasis from HCC should be considered in the differential diagnosis in patients with subcutaneous scalp swelling and osteolytic defects on x-ray. Here, we report a case of HCC presenting as a solitary scalp lump.

KEYWORDS

Hepatocellular Carcinoma, Skull Metastasis.

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BACKGROUND

Hepatocellular Carcinoma (HCC) is the fifth most common cancer in the world and is more prevalent in Africa and East Asia.^[1] The higher incidence of HCC in these countries is related to the increased prevalence of chronic viral hepatitis B.^[2] Advanced HCC metastasises commonly to the regional lymph nodes and lungs,^[3] but less commonly it can spread to the axial skeleton. Among them, HCC usually metastasises to the vertebral column, pelvis and ribs, only rarely does it spread to the skull.^[4] The incidence of HCC with bone metastases has been reported as very less in autopsy studies, but it has been reported that recently there is an increasing trend.^[4,5] In the past, patients with HCC had a short survival period, hence their clinical presentations were mostly concerned with the manifestations of the primary cancer itself. However, due to much progress in the treatment of HCC patients with HCC survive longer and as a result, the incidence of distant metastasis from HCC, which

includes bone metastasis has increased.^[4] In this case report, we present a patient who had no previously known liver disease, but presented with metastatic deposits of the skull after, which the diagnosis of the primary cancer was made.

CASE PRESENTATION

A 70-year-old female presented with an occipital scalp swelling of ten days duration with rapid enlargement with occasional pain over the swelling. There was no history of any associated head injury and no headache or vomiting. There was no history of previous liver disease or jaundice. She had no upper and lower gastrointestinal symptoms had a good appetite and there was no loss of weight. She had no history of any significant medical problems including diabetes and hypertension. Examination revealed a nontender, spherical, subcutaneous lump over the parieto-occipital region, which was approximately 4 cm in diameter (Figure 1). The lump was variable (soft to firm), inconsistency, nonmobile, not pulsatile and with no cough impulse. Her general examination was normal with no signs of chronic liver disease. Abdomen examination was also normal with no hepatomegaly. Neurological examination revealed no focal defects. Examination of the ear, nose and throat were normal.

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Her routine blood investigations including blood counts and liver function tests was normal. Her skull x-ray revealed a lesion with destruction of the occipital bone.

The contrast-enhanced CT scan of her brain showed a mass with lysis of the underlying skull with no involvement or penetration of the meninges (Figure 2). An FNAC of the lesion was reported to be suggestive of malignancy. An ultrasound of the abdomen revealed an 8.5 x 5 cm mass in the left lobe of the liver. An USG of the neck and breasts were normal. Subsequent CECT scan of the abdomen showed an 8 cm diameter lesion in segment II and III of the liver with characteristic features of HCC, but no radiological evidence of cirrhosis (Figure 3). Her alpha-fetoprotein titre was elevated - 848 ng/mL (normal range 0-8.5 ng/mL). She was negative for hepatitis C and B. Her x-ray of the chest was normal. Barium study of the upper GI tract was normal. An upper GI endoscopy showed oesophageal and duodenal varices. Oncologist opinion was obtained and the patient was started on T. Sorafenib 200 mg 2BD and bisphosphonate therapy.



Figure 1. Spherical, Subcutaneous Lump over the Parieto-Occipital Region

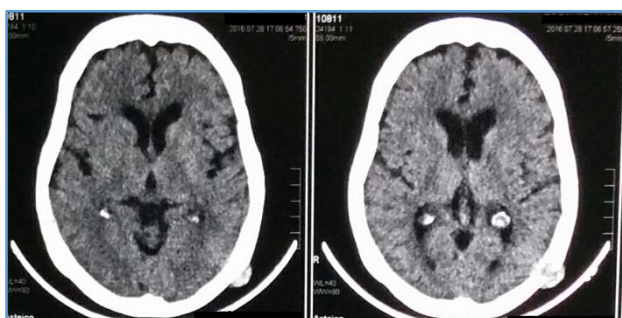


Figure 2. CT Brain Showing Osteolytic Bone Lesion

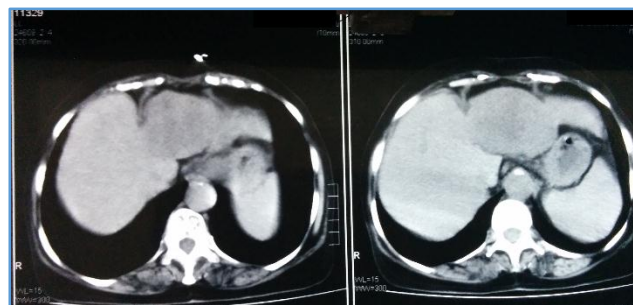


Figure 3. CECT Scan of the Abdomen Showed an 8 cm Diameter Lesion in Segment II and III

DISCUSSION

The incidence of HCC with skeletal metastasis is estimated to be 2%-16% and it is dependent on the prevalence of the disease in the general population.^[4,6] The most common sites of skeletal metastases from HCC are vertebrae, the sternum, ribs and long bones. The incidence of metastasis in the skull is low at 0.5%-1.6%.^[1,7,8] Males in their sixth and seventh decades are most commonly involved with age and sex distributions similar to those with only HCC.

The incidence of skull metastasis in patients with HCC has increased in the past decade probably due to an increase in the survival rate due to progress made in the diagnosis and treatment of HCC.

This marks an interesting trend in the incidence of skull metastasis in spite of its low incidence.^[4,7] Hence, patients with hepatocellular carcinoma should be monitored closely for skull metastases. Plain x-ray of the initial diagnostic investigation in a patient with clinical suspicion of a bone lesion and Technetium-99m-methylene diphosphonate bone scan is most commonly used as a screening tool to detect bone metastases. In the x-ray, osteolytic lesions is the most common finding with enhancement on CT.^[6,7]

Because, the spectrum of primary cancers, which cause skull metastases is wide and the radiological findings of these cancers are virtually indistinguishable. Pathological confirmation is definitely required. In our case, an FNAC was done to confirm the malignancy. Also, in our patient, the liver function test was normal and was totally asymptomatic in spite of the primary liver cancer.

In advanced stages of HCC, metastasis to the central nervous system usually occurs through two different pathways.^[6,7] One is the haematogenous pathway, which goes via the lung to the brain parenchyma without skull involvement. In this type, the character of HCC is defined as a "neutrophilic" cancer and the most common site of extracranial metastases is the lung. The second pathway is the osseous route to the skull directly through the Batson's venous plexus. Skeletal system is the most common site of extracranial metastases in this type and this type of HCC is characterised as an "osteophilic" cancer. Cancer cells may sometimes disseminate through the diploic venous channels and hence cause expansion through the inner and outer table of the skull.^[7] Also, it is rare to find HCC with skull metastasis in the absence of other bony metastases.

Our patient had initially visited the hospital with history of an incidentally discovered scalp mass. The most common

presentation is a subcutaneous mass with occasional pain (63%) followed by neurological deficits (44%), headache (11%) and seizure.^[1]

There are several treatment options that can be used for the treatment of skull metastases. These include direct ethanol injection into the mass, surgical resection, radiotherapy and supportive management. In several previous case reports, many patients with HCC and skull metastases usually died due to liver failure secondary to the primary and that even after surgical resection of the metastatic lesion, there was no improvement in the survival of the patient.^[1,4] Hence, the metastatic tumour was not resected in our patient. The prognosis of the patient depends on the stage of the primary cancer.

CONCLUSION

Although, a solitary skull metastasis before the diagnosis of the primary HCC is a rare metastatic behaviour for hepatocellular carcinoma. Metastases to the skull should be included in the differential diagnosis of skull tumours, even if the patient is asymptomatic of liver cirrhosis. As a result of the increase in survival rate in HCC patients, the incidence of clinically significant skull metastases has also increased. Hence, early diagnosis and proper management of both the bone metastasis and the primary should be done to improve the quality of life in the patients.

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