Hepatocellular Carcinoma Metastatic to the Skull Base: First Report in North America
Ryan K Meacham, MD; Alok Saini, BS; Merry E Sebelik, MD
Department of Otolaryngology

INTRODUCTION

Hepatocellular carcinoma (HCC) is the fifth most common primary tumor worldwide and the third leading cause of cancer death.\(^1\) HCC metastasis to the skull base is exceedingly rare and most cases are reported from Eastern Asia where there is an increased incidence of HCC.\(^2\) We describe a 53 year-old man with HCC metastasis to the skull base, which we believe to be the first documented case in North America.

CASE PRESENTATION

A 53 year-old male with hepatitis C for greater than twenty years presented with a 4 month history of left sided facial numbness, pressure, and pain associated with headaches, left sided aural fullness and hearing loss, occasional double vision, and frequent epistaxis. His primary care physician treated him with multiple rounds of antibiotics for sinusitis, but the symptoms failed to resolve. On exam, the patient was noted to have left sided facial swelling with decreased sensation in the V2 distribution. He demonstrated diplopia upon right and left lateral gaze. Corneal reflexes were absent bilaterally. All other cranial nerves were intact. The remainder of the physical exam was normal.

Laboratory studies disclosed the following abnormal values: alkaline phosphatase 196 U/L (45-150 U/L), aspartate aminotransferase 89 U/L (14-59 U/L), alanine aminotransferase 92 U/L (10-55 U/L), glucose 157 mg/dl (40-130 mg/dl), platelets 105,000 (140,000-400,000/mm\(^3\)).

A contrast enhanced computed tomography (CT) of the neck revealed a large mass in the sphenoid sinus extending to the clivus and eroding through the skull base into the middle cranial fossa (Figure 1). It extended into the left temporal fossa and parapharyngeal space. Associated opacity of the left middle ear cavity and mastoid air cells was noted.

The patient underwent endoscopic, transnasal biopsy of the mass in the sphenoid sinus. Histopathology showed prominent hepatocytes with positivity of Heppar-1 immunostain and pericanalicular staining with polyclonal CEA, findings consistent with metastatic hepatocellular carcinoma (Figure 2).

An abdominal CT scan with contrast demonstrated multiple enhancing liver masses and scattered subcentimeter enhancing nodules in all segments of the liver representing multicentric hepatocellular carcinoma (Figure 3). Alpha-fetoprotein level was 550 ng/ml (<50 ng/ml). A positron emission tomography (PET) scan demonstrated osseous metastasis involving the lateral aspect of the right sixth rib and the transverse process of T5 on the right (Figure 4).

The patient received palliative chemotherapy and died 4 months after diagnosis.

REFERENCES