ABSTRACT

Objectives:
Head and neck cancer metastases to the cavernous sinus have been rarely reported. Tissue diagnosis and surgical management present unique challenges, given the proximity to the critical cavernous sinus structures. We describe a transnasal endoscopic approach to the cavernous sinus for tissue diagnosis, ultimately guiding treatment and management.

Study Design:
Retrospective case study

Methods:
A review of the medical records of two patients who presented to a tertiary medical center with symptoms of cavernous sinus syndrome was done. Radiographic images, videographic demonstration of the operative technique, and pathology slides are presented.

Results:
Both patients presented with ophthalmologic symptoms consistent with cavernous sinus syndrome. Imaging demonstrated a lesion in the cavernous sinus. Videographic demonstration of the operative technique shows that a transnasal endoscopic approach to the cavernous sinus is feasible and safe. A dual surgeon approach was utilized, with the otolaryngologist providing wide exposure of the cavernous sinus through the lateral wall of the sphenoid, and the neurosurgeon taking down the dura to enter the cavernous sinus and collect tissue. The tissue diagnosis was metastatic adenoid cystic carcinoma in the first patient and metastatic squamous cell carcinoma in the second patient. Figures 3 and 4 show metastatic adenoid cystic carcinoma in the mucosa and with evidence of perineural invasion respectively. Postoperatively, both patients recovered well without new vision changes, cranial neuropathies or bleeding.

Conclusions:
A transnasal endoscopic approach to the cavernous sinus is a safe and efficacious method to obtain tissue specimens of cavernous sinus lesions. Pathologic diagnoses in patients presenting with cavernous sinus syndrome is critical for guiding further treatment and management.

INTRODUCTION

Head and neck cancer metastases to the cavernous sinus have been rarely reported. Due to more precise imaging diagnostic techniques, the number of reported cases in the last several years has increased. Tissue diagnosis and surgical management for lesions in the cavernous sinus present unique challenges, given the proximity to the critical cavernous sinus structures, including the internal carotid artery. Expanded endonasal approaches to the middle cranial fossa and specifically to the cavernous sinus region have previously been described for sellar and parasellar lesions. We describe an endoscopic transnasal approach to the cavernous sinus for tissue diagnosis, ultimately guiding treatment and management.

METHODS AND MATERIALS

A review of the medical records of two patients who presented to a tertiary medical center with symptoms of cavernous sinus syndrome was done. Radiographic images, videographic demonstration of the operative technique, and pathology slides were reviewed.

RESULTS

Both patients presented with ophthalmologic symptoms consistent with cavernous sinus syndrome. The first patient was a 69 year old female with no prior history of cancer who presented with a 2-1/2 year history of atypical trigeminal neuralgia who on a repeat MRI was found to have abnormal enhancing tissue within the right cavernous sinus, foramen rotundum, foramen ovale and the right pterygopalatine fossa (figures 1,2). The second patient was a 69-year-old male with a history of bladder cancer and melanoma who presented 7 months after resection, reconstruction and radiation for oropharyngeal squamous cell carcinoma with a right-sided cavernous sinus lesion (figure 5).

REFERENCES