Extradural intrasphenoidal cavernous sinus schwannoma

Case illustration

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This 31-year-old woman had experienced progressive visual loss in her left eye 3 weeks prior to her admission and was admitted with only light perception. Contrast-enhanced computerized tomography scanning revealed an enhancing lesion at the area of the left anterior clinoid process that appeared to extend into the sphenoid sinus (Fig. 1 upper left). She was immediately started on a course of high-dose steroids and her vision over the improved over the next week to 20/400 with color recognition. Gadolinium-enhanced magnetic resonance imaging showed a dumbbell-shaped tumor (Fig. 1 lower left). The clinical and radiological diagnosis was that of a meningioma. Angiography showed no tumor blush. A left frontotemporal craniotomy was performed, and an aerated but intact anterior clinoid was removed extradurally. The optic nerve was located inside the sphenoid sinus on its extradural extraorbital segment. An encapsulated extradural tumor inside the sphenoid sinus was attached to the dura of the anteroinferior cavernous sinus. There was no bone protecting this portion of the cavernous sinus. The tumor was debulked and the capsule completely removed. Three weeks postsurgery, the patient’s vision had recovered to 20/25. Microscopic examination of a tumor specimen showed a pattern typical of schwannomas (Fig. 1 right).

Schwannomas arising in the sphenoid sinus are rare.1–4 Skull base involvement by sphenoid sinus tumors can produce third, fourth, or sixth cranial nerve palsies, facial pain, and decreased vision because the optic nerve is located ventrolateral to the sinus. Lesions involving the sphenoid sinus may require staged procedures such as extradural craniotomy and lateral rhinotomy. Skull base surgery may be necessary for sphenoidal schwannomas, primarily for those located close to the cavernous sinus area.

References

Fig. 1. Radiological and histological studies obtained in a 31-year-old woman suffering visual loss due to meningioma. Upper Left: Contrast-enhanced computerized tomography scan showing a lesion with erosion of the anterior clinoid process and extension into the sphenoid sinus. Lower Left: Coronal T1-weighted magnetic resonance image demonstrating marked gadolinium enhancement of the intrasphenoidal lesion. Right: Photomicrograph of the lesion showing compact areas consisting of spindle cells arranged in well-defined fascicles (Antoni A) and a loose microcystic area (Antoni B). H & E, original magnification × 100.