Sphenoid wing meningioma outcome

Sphenoid wing meningioma may be associated with hyperostosis of the sphenoid ridge and may be very invasive, spreading to the dura of the frontal, temporal, orbital, and sphenoidal regions. Medially, this tumor may expand into the wall of the cavernous sinus, anteriorly into the orbit, and laterally into the temporal bone.

The hyperostosis frequently associated with sphenoid wing meningiomas is actual invasion of bone by the tumor. The intracranial portion of the tumor is usually thin with en plaque spread, and the tumor tends to invade the orbit through the superior orbital fissure.

Large and giant medial sphenoid wing meningiomas that are located deeply in the skull base where they are closely bounded by cavernous sinus, optic nerve, and internal carotid artery make the gross resection hard to achieve. Also, this kind of meningiomas is often accompanied by a series of severe complications.

For medial sphenoid wing meningiomas, visual loss and abnormalities of cranial nerves III, IV, VI, V1, and V2 may occur because the meningioma may have some degree of encasement of these structures as they ride through the cavernous sinus.

Seizures, paresis, and sensory loss may result depending on potential damage to adjacent brain parenchyma for patients with lateral sphenoid wing meningiomas.

Sphenoid wing meningiomas (SWMs) can encase arteries of the circle of Willis, increasing their susceptibility to intraoperative vascular injury and severe ischemic complications.