A Case of Cavernous Sinus Syndrome with Hypopituitarism Caused by Sphenoid Sinusitis

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Cavernous sinus syndrome may become fatal if it is misdiagnosed and its treatment is delayed. We report herein on the case of 42-year-old woman with sphenoid sinusitis who developed cavernous sinus syndrome and hypopituitarism. She presented to our hospital with a history of continued headache and swelling of the right eyelid. She was diagnosed as having hypopituitarism based on blood examinations, and computed tomography (CT) imaging revealed right sphenoid sinusitis. Magnetic resonance imaging (MRI) showed local meningitis, right orbital cellulitis and inflammation of the right cavernous sinus.

Endoscopic sinus surgery (ESS) was performed immediately and broad-spectrum antibiotics were administered intravenously before and after the surgery. The patient's condition improved postoperatively, and she was discharged without any complication after 6 days. The pituitary function returned to normal in 1 month without hormonal support.

For the management of cavernous sinus syndrome, enhanced MRI is useful to reveal important intracranial and sinus findings. Although cavernous sinus syndrome is rare, delay in diagnosing may lead to serious complications such as meningitis, brain abscess, visual disturbance and hypopituitarism. Immediate surgical drainage is essential for the treatment of cavernous sinus syndrome caused by sinusitis.

Keywords : cavernous sinus syndrome, hypopituitarism, sphenoid sinusitis, endoscopic sinus surgery

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Preoperative computed tomography of the paranasal sinus

Soft tissue density can be observed in the bilateral maxillary sinus, right ethmoid sinuses and right sphenoid sinus, with thinning of the bony wall of the right sphenoid sinus (arrow).

Preoperative findings in enhanced magnetic resonance imaging (T2-weighted images)

Thrombosis cannot be detected in the cavernous sinus.

a: Fat tissue in the right orbit demonstrates iso-high intensity.

b: Strong enhancement can be observed in the portion of the right internal carotid artery in the cavernous sinus part (arrowheads).

c: The dura mater in the right hemisphere is enhanced, indicating hypertrophy (arrows).