A 67-years-old woman with diabetes mellitus was admitted because of having difficulty in opening her left eye for two days following a left frontal pain of two months duration. Neurological examination revealed a left trochlear nerve palsy and a left oculomotor nerve palsy with preserved light reflex. Tendon reflexes in the limbs were equally depressed. All sensation was impaired in a stocking and glove fashion. Magnetic resonance images (MRI) of the brain with gadolinium showed a mass lesion in the left sphenoid sinus (Figs. 1A-B), and two brain abscesses in the left medial temporal and right temporal-occipital regions (Fig. 1C). The mass was removed surgically and pathological examination revealed clumps of aspergillus with septated hyphae and focal purulent exudate. Cerebrospinal fluid analysis was unremarkable. The patient received a 2-month course of combined intravenous amphotericin-B and oral itraconazole. Oral itraconazole alone was continued for 10 more months. The functions of left oculomotor and trochlear nerve recovered after above treatment.

Two months after admission, slight right hemiparesis was observed. MRI of the brain showed thrombotic change of the siphon portion of the left internal carotid artery (ICA) (Figs. 2A-B) along with a low-flow infarc-
tion in the left hemisphere. (Fig. 2C). Extracranial carotid duplex revealed mild stenosis of bilateral carotid arteries and patent left ICA.

Aspergillosis commonly presents as localized infection of the respiratory tract, paranasal sinuses, or cutaneous tissue. Invasive aspergillosis often developed in debilitated patients with alcoholism, diabetes, hepatic failure, chronic renal failure, drug addiction, or hematological malignancy. Cerebral vasculitis due to Aspergillus infection is usually the result of disseminated disease following hematogenous spread from the lungs. Local spread into the brain from the paranasal sinuses may occur\(^1\). The angio-invasive nature of aspergillus may result in infarction in the distal field of the affected artery\(^2\).

In this patient, the original focus of aspergillus infection was in the left sphenoid sinus. The left frontal pain and left sided cranial nerve palsies might be indicative of the early invasion to the lateral wall of the left cavernous sinus. Subsequently, fungal vascular wall invasion then induced the formation of the thrombus in the left ICA with significant hemodynamic consequence.

References: