Intractable Headache in a Glioblastoma Patient

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Case Study

A 37-year-old male patient was diagnosed with glioblastoma and received standard surgery and adjuvant radiochemotherapy with temozolomide. After 6 cycles of adjuvant chemotherapy he showed clinically and radiologically stable disease.

Five months after the end of adjuvant treatment he developed headache. The severity of headache gradually increased over days to weeks without response to initial steroids or conventional analgesic treatment. High dosages of opiates showed only little clinical efficacy. With respect to the primary tumour location, the glioblastoma was radiologically stable.

Besides the severe headache, the patient suffered from low-back pain, diffuse sensory deficits at the left upper as well as the left lower extremity, mild paresis at the lower limbs (left > right), and urinary dysfunction.

The reason for neurological deterioration as well as intractable headache needed to be resolved.

What Is Your Diagnosis?

The diagnosis of neoplastic meningitis was established by means of MRI of the neuroaxis showing typical enhancement of the meninges, as well as contrast-enhancing bulky lesions (Figures 1 and 2) together with neurological signs and symptoms. Due to a rapid clinical decline, only supportive management was applied. Palliative local radiotherapy to the cervical spine was initiated but had to be terminated due to the rapid clinical decline. The patient died shortly after the diagnosis of neoplastic meningitis.

Neoplastic meningitis in patients with malignant gliomas is a rare complication most frequently occurring at an advanced stage of the disease and represents a fatal complication. But it has also been reported as the initial presentation of malignant glioma [1]. Control of its neurological signs and symptoms is challenging.

Diagnosis of neoplastic meningitis can often be time-consuming and misleading. From the clinical point of view, patients with rapidly progressing intractable headache without clinical and radiological signs of increased intracranial pressure are highly suspicious for neoplastic meningitis. Mental changes and radicular sensorimotor signs can be predominant as well [2–4]. In accordance with neurological signs and symptoms, the diagnosis can be established by means of an MRI of the total neuroaxis. CSF analysis mostly indicates elevated protein levels but malignant cells are rarely found [1, 4].

Treatment is mainly supportive, although there are some case studies on intrathecal chemotherapy for example with liposomal ARA-C [5], or with temozolomide [6] reporting some benefit. Also local radiotherapy to symptomatic areas or bulky disease may be considered. With respect to headache, only high-dose opiates may show some clinical benefit.

Figure 1. T1-weighted MRI (sagittal) with contrast media, showing enhancement of the meninges (arrows).

Figure 2. T1-weighted MRI (axial) with contrast media, showing enhancement of the meninges (arrows), and only little enhancement at the primary tumour location at the left temporobasal area (asterisk).
References:


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