

Picture Quiz (Answer)

Picture Quiz: An unusual cause of headache

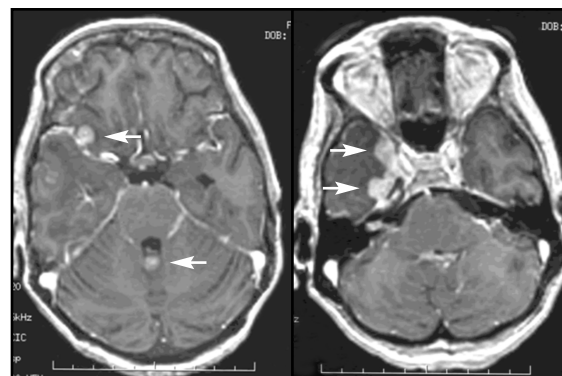
Answer

The MRI images (see page 27) show lobulated meningeal thickening along the medial aspect of the right middle cranial fossa extending into sylvian fissure, suprasellar cistern, interpenduncular cistern and roof of 4th ventricle which enhanced on post-contrast images. These appearances are diagnostic of metastatic leptomeningeal carcinomatosis.

Discussion

Leptomeningeal Carcinomatosis (LC) affects approximately 5% of patients with cancer, either as a presenting sign or as a late complication.¹ Improvements in neuro imaging and increased awareness of the condition have led to the condition being diagnosed with increasing frequency. LC is thought to result from the multifocal seeding of malignant cells via the cerebro spinal fluid (CSF).^{1,3}

Signs and symptoms of LC are attributable to increased intracranial pressure secondary to obstruction of CSF, local tumour infiltration, alteration in the metabolism of nervous system, encephalopathy or occlusion of blood vessels.¹ Headache is the most common symptom at presentation, affecting approximately 50% of patients, while pain, nausea and/or vomiting, weakness, and sensory disturbances are each seen in approximately one third of cases. Seizures occur in approximately 20% of patients; less commonly the condition may mimic stroke or diffuse encephalopathy.^{2,3} Frequent clinical signs include altered mental status in approximately 25%, cauda equina syndrome in 20%, and polyradiculopathy in 15%. Multiple level cranial nerve and spinal nerve palsies are seen commonly and are the result of direct tumour involvement.^{2,3}



Figures 1 and 2.

The most frequent non-haematological primary sources of LC are the lungs, breast, GI tract, genitourinary and malignant melanoma, accounting for about 94% of cases;^{1,2} in most cases the primary tumour is an adenocarcinoma.¹

The combination of MRI and cytological analysis of CSF has the best diagnostic potential.⁴⁻⁸ It should be noted that CSF cytology may be persistently negative in 10% of cases;¹ cranial CT scan is normal or misleading in up to 60% of patients in whom the diagnosis is subsequently confirmed.⁷

In our case repeated CSF cytology was negative, and no primary tumour could be identified, despite extensive investigation with CT of chest, abdomen and pelvis, MRI scan of pelvis, ultrasound of the thyroid and colonoscopy. Tumour marker analysis revealed normal CA 125, CEA, CA 15.3, alphafeto protein and HCG but her CA19.9 was significantly elevated on two occasions. Following this extensive investigation she was given a course of palliative cranial radiotherapy; although this improved her symptoms temporarily she died shortly afterwards.

References

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