A 32-year-old man presented with headache and recurrent tonic–clonic seizures of 2 weeks’ duration. Neurologically, he demonstrated moderate cognitive impairment, bilateral papilledema, left mimetic facial weakness and bilateral pyramidal signs. Cranial magnetic resonance imaging (MRI) (Figure 1) revealed bilateral lesions involving gray (including right temporo-insular and frontal cortices) and white matter with mass effect. The lesions demonstrated minimal enhancement after administration of gadolinium (contrast agent). He was seronegative for human immuno-deficiency virus (HIV type 1 and 2). The differential diagnoses entertained on clinical ground included gliomatosis cerebri, lymphoma, acute disseminated encephalomyelitis (ADEM), herpes simplex encephalitis, progressive multifocal leukoencephalopathy (PML)\(^1\) (occasional cases with gray matter involvement), neurosyphilis, tuberculosis, fungal infection, vasculitis and sarcoidosis. Lack of significant contrast enhancement was felt atypical for lymphoma, while the presence of cortical involvement and mass effect was unusual for ADEM. Extensive white matter involvement rendered the possibility of herpes simplex encephalitis unlikely, though occasional cases with white matter involvement have been reported.\(^2,3\) The other possibilities such as PML, neurosyphilis, tuberculosis, fungal infection, vasculitis and sarcoidosis were excluded after appropriate investigations and brain biopsy. The lesion was histopathologically confirmed as grade III astrocytoma. He was treated with concomitant chemo-radiotherapy, followed by temozolamide only, anti-epileptics and anti-edema (including dexamethasone) measures with minimal symptomatic relief and interval progression of the lesion on follow-up imaging. The presence of mass effect on MRI scan aids in the recognition of neoplastic nature of the lesion. Extensive

Figure 1. Fluid attenuated inversion recovery axial MRI brain (A, B) demonstrating infiltrating glioma (bright signal) involving right temporo-insular and frontal cortices, adjacent subcortical white matter and right basal ganglia and thalamus. Note the mass effect, midline shift and additional left frontal subcortical lesion on T2 weighted coronal image (C).
gray matter involvement in gliomatosis cerebri
is associated with poor chemosensitivity and prognosis.4

Photographs and text from: R. Nandhagopal, A. Al-Asmi, G.R. Arunodaya and P.C. Jacob, Neurology Division, Department of Medicine, Sultan Qaboos University Hospital and College of Medicine and Health Sciences, SQU, Al-Khod, Zip 123, Muscat, Oman; F. Al-Azri, Radiology and Molecular Imaging, Sultan Qaboos University Hospital and College of Medicine and Health Sciences, SQU, Al-Khod, Zip 123, Muscat, Oman; I.A. Burney, Oncology Unit, Sultan Qaboos University Hospital and College of Medicine and Health Sciences, SQU, Al-Khod, Zip 123, Muscat, Oman.
email: mandagopal@yahoo.com

References