

**(Refer to page 116)****Answer: Polymicrogyria**

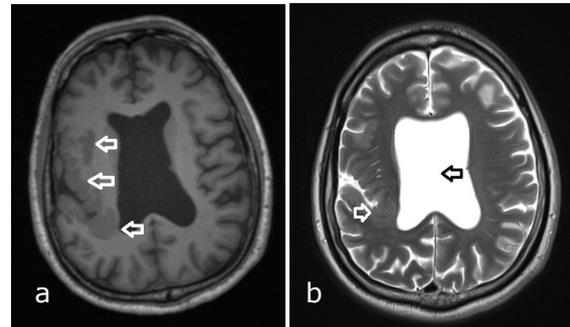
The MRI images show right peri-Sylvian polymicrogyria (white arrow) and also absent septum pellucidum (black arrow), a condition associated with seizure disorder.

Polymicrogyria is one of the most common malformations in cerebral cortical development.<sup>1, 2</sup> Although there is still uncertainty as to its pathogenesis, the causes of polymicrogyria are thought to include congenital infection, localised or diffuse in-utero ischaemia or genetic mutations.<sup>3</sup> The effects of these occur in the late neuronal migration or early post-migrational development periods of the brain.<sup>1</sup>

The cerebral cortex can be involved to various degrees, unilateral or bilateral and focal or generalised.<sup>4</sup> The most commonly involved location is the peri-Sylvian area in 80%.<sup>1, 3</sup>

There are three specific characteristics; an abnormal gyral pattern, increased cortical thickness, and irregularity of the cortical-white matter junction due to packing of microgyri.<sup>1, 3</sup>

MRI is the preferred imaging for this condition using an epilepsy protocol. Multiple



a) Axial T1 brain: right peri-Sylvian polymicrogyria (white arrows); b) Axial T2 brain: right peri-Sylvian polymicrogyria (white arrow) and absent septum pellucidum (black arrow)

small delicate gyri are evident in the right peri-Sylvian region, with a thickened cortex (Panels). The septum pellucidum is also absent.

The clinical manifestations associated with polymicrogyria are aside from epilepsy include intellectual disability, motor and speech disturbance and hemi or quadriplegia.<sup>2, 3</sup> The nature of the disability associated will be dependent on the portion of the brain involved, the type and extent of polymicrogyria and the addition of any associated anomalies.<sup>3</sup> Treatment of polymicrogyria is symptomatic. Those with medication resistant seizures may be candidates for epilepsy surgery.<sup>5</sup>

**REFERENCES**

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