(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.\(^1\),\(^2\) 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.\(^3\) The effects of these occur in the late neuronal migration or early post-migrational development periods of the brain.\(^1\)

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

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.\(^1\),\(^3\)

MRI is the preferred imaging for this condition using a epilepsy protocol. Multiple 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 quadripare-sis.\(^2\),\(^3\) 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.\(^3\) Treatment of polymicrogyria is symptomatic. Those with medication resistant seizures may be candidates for epilepsy surgery.\(^5\)

REFERENCES