Transependymal edema

Transependymal edema, also known as interstitial cerebral edema, is a type of cerebral edema that occurs with increased pressure within the cerebral ventricles. FLAIR MRI sequence is the most sensitive MRI sequence to detect this type of oedema.

Pathology

The ventricular ependymal lining is eventually disrupted, allowing for the transependymal migration of cerebrospinal fluid into the brain parenchyma around the cerebral ventricles. This is usually seen surrounding the lateral ventricles in the setting of an acute obstructive hydrocephalus.

Radiographic features

CT

low attenuation periventricular changes are seen around the lateral ventricles effacement of adjacent cerebral sulci may be seen, which is helpful to distinguish the condition from age related cerebral atrophy with small vessel peri-ventricular ischaemic changes other corresponding features of obstructive hydrocephalus may be noted MRI

halo of high T2 or FLAIR signal is seen around the lateral ventricles Practical points

It is important to distinguish interstitial oedema from the normal slight increase in signal anterior to the frontal horns, and posterior to the occipital horns, which is known as ependymitis granularis.