

Honeycomb-like appearance of dilated Virchow-Robin spaces

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Virchow-Robin spaces (VRS) are interstitial fluid-filled pia-lined extensions of the subarachnoid space surrounding the arteries entering brain parenchyma. On MRI, dilated VRS have signal intensities identical to those of cerebrospinal fluid and are either a coincidental finding or found in patients with miscellaneous clinical conditions. (Kwee and Kwee, 2007). We present two cases with dilated VRS in different locations in whom vascular, infectious or metabolic disorders were ruled out. The first patient, a 50-year-old lady with long-standing schizophrenia, was admitted in Doha following a generalized tonic-clonic seizure. Neurological examination was normal. MRI brain scans are shown in figure 1 A and B. The second 78 yo female patient consulted in Liège for gait instability. Her neurological examination was consistent with mild gait apraxia and associated with mild parkinsonian signs. L-Dopa reduced the latter, but not the former. MRI scans are shown in figure C and D.

Dilated VRS can be found in three characteristic locations (Marnet *et al.*, 2007): VRS surrounding lenticulostriate vessels in the anterior perforated substance prior to their entry into the basal ganglia (Type I) (case 1); along the perforating medullary arteries in the high-convexity white matter of elderly subjects (Type II); in the midbrain (Type III). Occasionally, dilated VRS may become very large and involve one hemisphere (case 2), show bizarre configurations and even cause mass effect (Papayanis *et al.*, 2003). The mechanisms underlying dilated VRS as well as their clinical significance remain however elusive in most cases. MRI signal intensities and locations allow to distinguish them from other lesions like lacunar infarcts, demyelination, cystic periventricular leukomalacia, cryptococcosis, mucopolysaccharidoses, cystic neoplasms, neurocysticercosis, and various cystic lesions (Heier *et al.*, 1989).

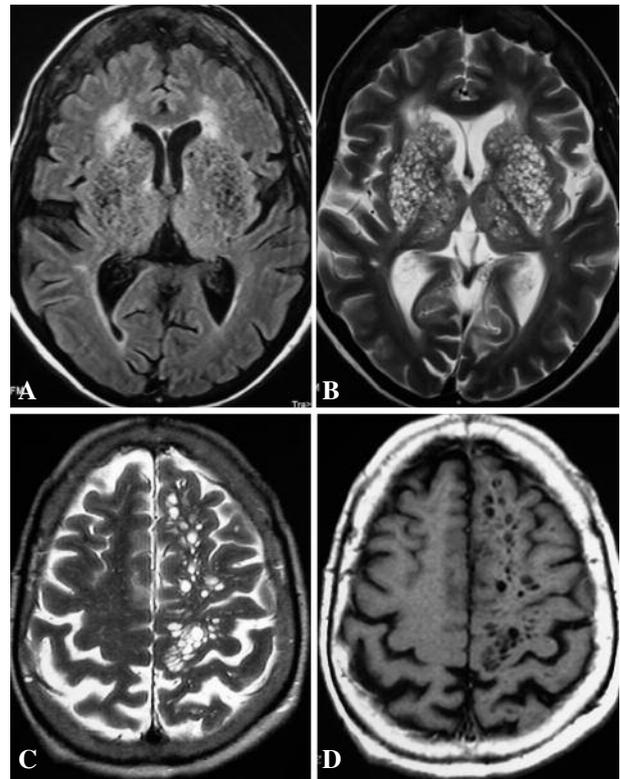


FIG. 1. — Case 1: Brain MRI FLAIR (A) and T₂ (B) sequences showing bilateral honeycomb-like pattern involving both capsulo-lenticulostriate areas and thalami corresponding to dilated VRS.

Case 2: Brain MRI T₁ (C) and T₂ (D) sequences showing left hemispheric fronto-parietal parasagittal dilated VRS.

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