**Introduction**

Virchow-Robin spaces are perivascular spaces that surround small arteries and arterioles as they enter the brain parenchyma. They are usually normal findings on MRI of healthy people. Rarely, Virchow-Robin spaces look strikingly enlarged, causing mass effect and unusual cystic conformations that may be misinterpreted as other pathologic processes, such as a cystic neoplasm. Here, we describe a 52-year-old woman in whom brain magnetic resonance imaging (MRI), performed to evaluate Parkinsonism, incidentally found giant Virchow-Robins space or Swiss cheese brain syndrome. In our patient, it seems that the giant Virchow-Robin spaces have been found incidentally and are not associated with the patient’s Parkinsonism symptoms.

**Case Report**

A 52-year-old woman presented with slowness in daily activities and walking since several years ago. She had no limb weakness, tremor, sensory problems or incontinency and did not take any medications. Her physical examination only revealed mild bradykinesia and mild rigidity in all four limbs; otherwise, the examination, including the cranial nerves, motor system, cerebellar system, sensory system and deep tendon reflexes, was within normal limits. To exclude secondary causes of Parkinsonism, brain MRI was performed. The brain MRI revealed multiple cystic-like lesions in the periventricular and juxtacortical areas of hemispheres, being hyperintense on T2-weighted, hyposignal on Fluid Attenuated Inversion Recovery (FLAIR), and T1-weighted sequences with signal intensity similar to that of CSF (Figure 1). In all sequences, the signal of the lesions was the same as that of the CSF. According to the brain MRI findings, a diagnosis of giant Virchow-Robin spaces or Swiss cheese brain syndrome was made.

**Discussion**

In our patient, it seems that the giant Virchow-Robin spaces have been found incidentally and are not associated with the patient’s Parkinsonism symptoms. Due to the porous appearance of brain as a result of the pores created by the widened Virchow-Robin space and its resemblance to Swiss cheese, it is termed as Swiss cheese brain syndrome.

**Keywords**: Brain magnetic resonance imaging, incidental findings, Parkinsonism, Virchow Robin spaces

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**Abstract**

Virchow-Robin spaces are perivascular spaces that surround small arteries and arterioles as they enter the brain parenchyma. They are usually normal findings on MRI of healthy people. Rarely, Virchow-Robin spaces look strikingly enlarged, causing mass effect and unusual cystic conformations that may be misinterpreted as other pathologic processes, such as a cystic neoplasm. Here, we describe a 52-year-old woman in whom brain magnetic resonance imaging (MRI), performed to evaluate Parkinsonism, incidentally found giant Virchow-Robins space or Swiss cheese brain syndrome. In our patient, it seems that the giant Virchow-Robin spaces have been found incidentally and are not associated with the patient’s Parkinsonism symptoms.

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spaces are found in the lower third of the basal ganglia. FLAIR weighted MR images should not show any signal intensity abnormality in the neighboring white matter.

The top differential diagnoses include: multiple lacunar infarctions, cystic periventricular leukomalacia, multiple sclerosis, cryptococcosis, mucopolysaccharidoses, neurocysticercosis, cystic neoplasms, neuroepithelial cysts, and arachnoid cyst; however, awareness of their signal intensity appearances and localization helps distinguish them from various pathologic conditions. Dilated perivascular spaces, even giant and extensive ones, rarely compromise the brain function and further work-up is seldom required in asymptomatic patients.

In conclusion the giant Virchow spaces could be an incidental finding on brain imaging without any pertinent clinical manifestations. Being aware of signal changes on different sequences of brain MRI could discriminate between this rare imaging finding and other possible pathologies.

Conflict of interest disclosures

Authors declare no conflict of interest.

References