

# Dilated Virchow Robin spaces mimicking cystic neoplasm of cingulated gyrus

Sukhdeep S. Jhavar, Sarvpreet S. Garewal, Priyanshu Bhargava, Pramod P. Nittala<sup>1</sup>

Departments of Neurosurgery, and <sup>1</sup>Radiodiagnosis, Christian Medical College and Hospital, Ludhiana, Punjab, India

A 45-year-old male presented with history of severe headache since two months. He was investigated and brain magnetic resonance imaging (MRI) showed a multiloculated cystic lesion involving left cingulated gyrus [Figures 1 and 2]. Lesion was well-defined and extending up to the corpus callosum [Figure 3]. The lesion showed no calcifications, hemorrhage, enhancement or perilesional edema. Diffusion-weighted images showed no restricted diffusion. Considering the atypical location and appearance on MRI, a histopathological correlation was planned. Patient underwent neuroendoscopic interhemispheric biopsy of cyst wall. The cystic areas were histologically confirmed to be enlarged perivascular spaces.

Virchow-Robin (VR) spaces surround the walls of vessels as they course from the subarachnoid space through the brain parenchyma. Dilated VR spaces typically occur in three characteristic locations: Type I VR spaces found along the lenticulostriate arteries entering the basal ganglia; Type II VR spaces found along the paths of perforating medullary arteries as they enter the cortical gray matter over the high convexities; and Type III VR spaces in the midbrain. Occasionally, VR spaces appear markedly enlarged, cause mass effect, and assume bizarre cystic configurations.<sup>[1]</sup> Knowledge of the signal intensity characteristics and locations of VR spaces helps differentiate them from various pathologic conditions, including cystic tumors, parasitic cysts, cystic infarctions, non-neoplastic neuroepithelial cysts, cystic periventricular leukomalacia, multiple sclerosis, mucopolysaccharidoses, and arachnoid cysts.<sup>[1]</sup> Rarely,

as seen in the present patient, they can also occur at an atypical location causing diagnostic confusion. In such cases, neuroendoscopic biopsy offers a safe effective treatment option.<sup>[2]</sup>

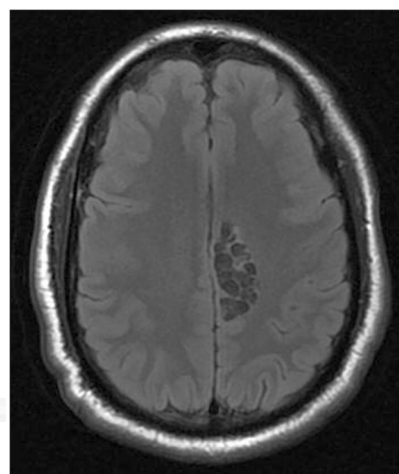


Figure 1: Axial T1-weighted magnetic resonance image showing a well-defined multiloculated cystic lesion in the left cerebral hemisphere. There is no perilesional edema seen. No solid component is noted within this lesion

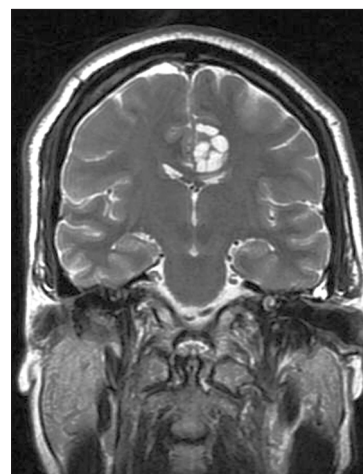



Figure 2: Coronal T2-weighted image shows the multiloculated cystic lesion in the left cingulated gyrus

Access this article online	
Quick Response Code:	Website: <a href="http://www.neurologyindia.com">www.neurologyindia.com</a>
	DOI: 10.4103/0028-3886.93595

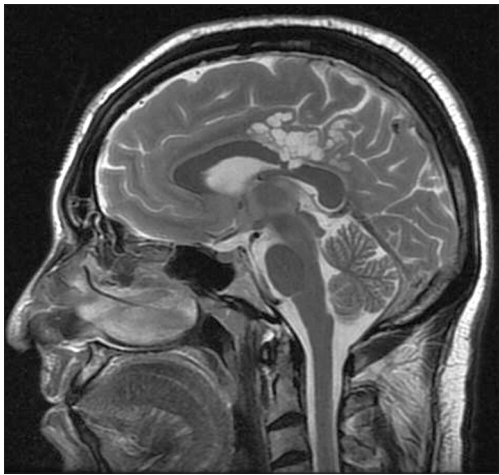


Figure 3: Sagittal T2-weighted image showing the cystic lesion involving the cingulate gyrus with indentation of the body of the corpus callosum

**Address for correspondence:**

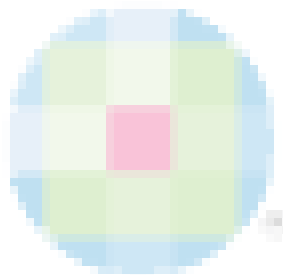
Dr. Sukhdeep Singh Jhawar,  
Department of Neurosurgery,  
Christian Medical College and Hospital, Ludhiana,  
Punjab - 141008, India.  
E-mail: [drssjhawar@gmail.com](mailto:drssjhawar@gmail.com)

**References**

1. Kwee RM, Kwee TC. Virchow-Robin spaces at MR imaging. *Radiographics* 2007;27:1071-86.
2. Rohlf J, Riegel T, Khalil M, Iwinska-Zelder J, Mennel HD, Bertalanffy H, *et al.* Enlarged perivascular spaces mimicking multicystic brain tumors. Report of two cases and review of the literature. *J Neurosurg* 2005;102:1142-6.

**How to cite this article:** Jhawar SS, Garewal SS, Bhargava P, Nittala PP. Dilated Virchow Robin spaces mimicking cystic neoplasm of cingulated gyrus. *Neurol India* 2012;60:136-7.

**Source of Support:** Nil, **Conflict of Interest:** None declared.



Announcement

**Android App**



Download  
**Android  
application**

FREE

A free application to browse and search the journal's content is now available for Android based mobiles and devices. The application provides "Table of Contents" of the latest issues, which are stored on the device for future offline browsing. Internet connection is required to access the back issues and search facility. The application is compatible with all the versions of Android. The application can be downloaded from <https://market.android.com/details?id=comm.app.medknow>. For suggestions and comments do write back to us.