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Commentary

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Sen *et al.* describe an interesting case that drives our attention towards the diversity of magnetic resonance imaging (MRI) lesions that can be seen in a cryptococcal central nervous system (CNS) infection. The article named: The Enigma of Transient Splenial Hyperintensity – in Cryptococcal Meningitis focus on a temporary lesion on the corpus callosum as an only lesion on the MRI (also known as the boomerang sign).[1]

Cryptococcus neoformans is an encapsulated yeast found in dust and bird droppings. Infection is acquired through inhalation of spores. The most common neurologic presentation in patients with acquired immunodeficiency syndrome (AIDS) and cryptococcosis is meningitis.

Although MRI has been reported as normal in some patients with cryptococcosis and CNS involvement; characteristic brain lesions have been described as pathognomonic for this entity. Some examples are dilated Virchow–Robin spaces and cryptococcoma.[2,3] Transient hyperintensity of corpus callosum due to cryptococcosis, as the authors point out, has not been described previously in the literature.

Some of the MRI findings of a patient with meningitis and cryptococcosis are due to the mucoid material produce by the cryptococcal organism (derived from the capsule of *C. neoformans*) that explains the hyperintensity in T2 images and hypointensity in T1 sequence.[2,3] No gadolinium enhancement is seen. The localization of most lesions follows the pattern of cryptococcal spread; it begins on the basal cisterns, through the Virchow–Robin spaces, and continues to the basal ganglia, thalamus and brainstem. Finally, the cryptococcoma localizes in the brain parenchyma. This lesion represents a collection of organisms, inflammatory cells and mucoid material. Furthermore, the mucoid material from the cryptococcoma dilates the perivascular spaces (Virchow–Robin), which gives the characteristic MRI image.[2,3]

In the moment of choosing the right imaging modality (MRI vs CT scan) for patients with cryptococcosis and CNS infection, authors have found that MRI detected more cryptococcal-related lesions than CT scan. In a study, cryptococcal-related lesions were found in 24% of patients with CT scan compared with 79% of patients that underwent MRI.[2] It is important to keep in mind that other associated pathologies (AIDS or other type of neurological infection) might also show abnormalities in both imaging modalities. Some examples are cerebral atrophy, edema, hydrocephalus and/or mass effect.[2,3]

The value of MRI in patients with cryptococcosis is highlighted by Charlier *et al.* that found an association between the presence of MRI neurologic lesions (due to cryptococcosis) and CSF antigen titers, high serum antigen titers and finally neurological abnormalities. These findings are relevant since the antigen titers