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Diagnosis of neurocysticercosis in low resource settings

Youssef Aly
Liverpool School of Tropical Medicine, UK

Neurocysticercosis is the leading cause of preventable epilepsy worldwide; it is classified as a neglected tropical disease by the WHO. It is highly endemic in Sub-Saharan Africa, parts of Asia and Latin America with seropositivity in these areas found to be up to 25%. Furthermore, CT studies done in highly endemic areas have found calcified cysts in up to 20% of the studied population. Diagnosis of neurocysticercosis relies heavily on neuroimaging studies, MRI in particular. Infection with neurocysticercosis can be attributed to many factors, most important among them perhaps being poor sanitation. Areas of high endemicity are more likely to be resource limited areas which are unlikely to have access to CT/MRI scanners. A host of diagnostic methods in lieu of imaging are available to use with differing sensitivities and specificities. Diagnosis in the absence of imaging can be complex due to the different classifications of disease; intraparenchymal vs. extraparenchymal, solitary vs. multiple cysts. This work aims to summarise the different diagnostic methods available and when to use them as per the most up to date guidelines and literature recommendations. It also highlights key clinical features that can be elicited in low resource settings to aid diagnosis. While these methods on their own may not be enough to diagnose neurocysticercosis with absolute certainty, they can serve as a guide on who to refer to tertiary centres in lower resource settings.