

Neurocysticercosis: A Parasitic Infection of the Brain and Central Nervous System

Antonio Rodriguez*

Department of Neurology, Hospital Central Ignacio Morones Prieto, San Luis Potosi, Mexico

Introduction

Neurocysticercosis is a parasitic infection of the brain and central nervous system caused by the tapeworm *Taenia solium*. It is a common cause of seizures and neurological symptoms in many developing countries, particularly in Latin America, Africa, and Asia, where pork is a dietary staple and sanitation and hygiene are poor. The infection is acquired by ingesting the eggs of the tapeworm, which are typically found in contaminated food or water or through contact with fecal matter from an infected individual [1,2]. Once ingested, the eggs hatch into larvae and migrate through the bloodstream to the brain and other organs, where they can cause inflammation, seizures, and other neurological symptoms. Symptoms of neurocysticercosis can vary widely depending on the location and number of cysts in the brain. Common symptoms include seizures, headaches, nausea, vomiting, dizziness, confusion, and visual disturbances. In some cases, the infection may be asymptomatic, and diagnosis may only be made incidentally through imaging studies [3-5]. Treatment for neurocysticercosis typically involves medications to kill the parasite and manage symptoms, as well as surgery in severe cases. Prevention strategies include improving sanitation and hygiene, avoiding consumption of undercooked pork, and treating infected individuals to reduce the risk of transmission. Research priorities for helminth infections, a joint study from the UN Food and Agriculture Organisation and the WHO, states that neurocysticercosis is the most significant avoidable cause of epilepsy, with an estimated 2 million individuals suffering from epilepsy in the developing world. It is brought on by the cyclophyllid cestode *Taenia solium*, which is a member of the Taeniidae family. This intestinal zoonotic parasite may infect humans as well as pigs during its larval or cysticercus stage, and if the infection spreads to the brain, it can result in a variety of crippling neurological issues [6,7]. Approximately 50 million people worldwide have neurocysticercosis, which has significant socioeconomic costs and global effects. Of those with symptomatic cysticercosis, 50-70% experience epileptic seizures. The origin of these parasites, how they reside in the human body, and most crucially, how they cause disease, are all typically shrouded in mystery. This infection continues to go untreated due to the absence of reliable diagnosis techniques and intervention trials as a component of integrated helminth management strategy [8]. Members of agricultural cultures with unsanitary living circumstances and economies centred on raising pigs with lax hygiene standards are most frequently reported to have the illness. However, due of immigration from nations where the disease is widespread, the sickness has been recorded more frequently in the industrialised world [9]. According to a UN study, about 2000 Americans are given a neurocysticercosis diagnosis each year. Although the clinical signs of neurocysticercosis are widely established and antiparasitic medications are readily available, the therapy is still debatable.

The incidence of seizures and other neurological diseases brought on by inflammation connected with the antiparasitic therapy were a major source of concern [10]. The primary topic of discussion among professionals for many years has been the value and potential risks of steroid therapy, antiepileptic medications, and cysticidal treatment. The main result of these studies was the partial or total cyst clearance. Other

well conducted investigations have demonstrated that radiological clearance may be poorer when there is a large burden of cysts.

Conclusion

In these investigations, the benefits of albendazole's anti-cysticercal therapy were diminished by the presence of inflamed cysts. Results from previous trials have demonstrated that praziquantel and albendazole combination therapy is more effective and efficient than albendazole alone. Data from many controlled trials over the past ten years have revealed that praziquantel or albendazole combined with corticosteroids may enhance radiological clearance in patients with few and uninfamed cysts.

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Conflict of Interest

Author declares no conflict of interest.

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*Corresponding author: Antonio Rodriguez, Department of Neurology, Hospital Central Ignacio Morones Prieto, San Luis Potosi, Mexico, E-mail: Antonio@yahoo.com

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