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# **Case Report**

# A Case of Neurocysticercosis in Diyarbakir

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## ABSTRACT

Neurocysticercosis is a major parasitic disease of the central nervous system, affecting endemic areas worldwide. It spreads through intermediary hosts, pigs and eventually men to his definitive host: humans. It causes lesions in the CNS which have different evolutive stages and can be asymptomatic or clinically evident. Imaging studies play an important role in the diagnosis of the disease and in its appropriate control

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### Introduction

Neurocysticercosis (NCC) is a chronic inflammatory infection of the central nervous system (CNS) caused by the larval form of the tapeworm *Taenia solium*. The larvae can cause cyst formation in any tissue, including the central nervous system (CNS) [1]. The disease is endemic in many low- and middle-income countries of the world. NCC is a very common disease in Central and South America, Asia, and Africa [2]. Although a few cases have been reported in Turkey. The clinical diagnosis of NCC has been based on the patient history, radiographical findings, and pathological confirmation. Magnetic Resonance (MR) imaging is also valuable for the diagnosis [3]. Here we present a case of NCC identified by MR imaging, which showed multiple lesions compatible with cysticercus.

#### **Case Report**

Our case is reported here, occurring in a previously healthy 26-year-old woman, born and residing in Diyarbakir. In November 2017, she was admitted to the Diyarbakir Gazi Yasargil Education and Research Hospital in Diyarbakir. Her complaint is numbress in the left arm for a two months. She had no history of intracranial infectious disease or autoimmune disease. Physical examination revealed no abnormality of her skin and body. Neurological examination revealed mild muscle strength loss of the left arm (4/5). Other muscle strength are 5/5. All blood chemistry findings, including the eosinophil cell count, c-reactive protein and various tests for autoimmune diseases, showed no abnormalities. Culture of her sputum showed no bacterium or tubercle bacillus. Her feces no contained parasite eggs.

T1-weighted MR imaging revealed an approximately 16 mm diameter hyperintense lesion with circumferential calcification and gadolinium administration T2-weighted MR imaging showed a central focal milimetric contrast containing hyperintense lesion in the right corona radiata. Bilateral centrum semiovale white matter are heterogenic. After gadolinium administration, left centrum semiovale showed a focal contras containing area. Also there is a intense edema around bilateral centrum semiovale. This intense edema spread to the to corona radiata. The contrast magnetic resonance imaging (MRI) showed bilateral basal ganglion calcifications (Figure 1). An electroencephalogram (EEG) was normal. She was started on albendazol (800 mg/day).

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**Figure 1**: MR imaging revealed an approximately 20 mm diameters lesion in the right frontoparietal area and 12 mm diameter lesion in adjacent to the left lateral ventricle.

#### Discussion

Human NCC is considered a rare disease in Turkey. The diagnosis and treatment of NCC are very difficult in nonendemic regions. Negative serology does not rule out the NSS infection. The imaging of brain lesions is very important for NCC diagnosis [3]. Our case illustrates the difficulty in the diagnosis of NCC in countries where the disease is very rare. Diagnosis requires a reliable medical history, physical examination, knowledgeable medical personnel, brain imaging technology, serological assays, as well as access to medication [4].

In our case, MR imaging with gadolinium showed a parenchymal solitary lesions were compatible with inflammatory disease such as NCC. NCC is a common cause of epilepsy and neurological focal abnormalities. Clinical presentation is related to the cyst localization. Accurate diagnosis is very important. MR imaging is the most accurate diagnostic method [3]. The mainstay for treatment of NCC is albendazole.

#### Conclusion

The clinical diagnosis of NCC has been based on the patient history, radiographical findings. Magnetic Resonance imaging is valuable for the diagnosis for NCC in non-endemic regions.

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