



# Disseminated Intramuscular Cysticercosis-snake Skin Appearance in MRI

## Yaygın İntromusküler Sistiserkoz-MRG'de Yılan Derisi Görünümü

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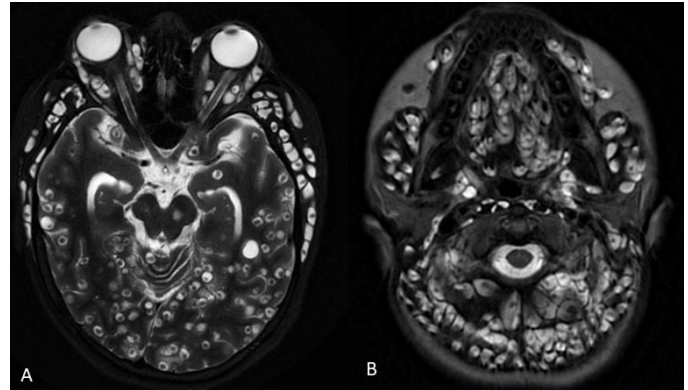
**Anahtar Kelimeler:** Sistiserkoz, kas içi, görüntüleme

Dear editor,

A 30-year-old female presented with complaints of headache, dizziness, generalized seizures, and proptosis for the last 4 years. A family history of having pig farming in the neighborhood was present. No previous investigations were available and the patient was on antiepileptics. Currently, non-contrast computed tomography (NCCT) of the head revealed multiple small hypodense lesions having eccentric calcific foci within, involving the bilateral cerebral parenchyma, muscles of mastication, extraocular muscles, and neck muscles. To confirm the diagnosis, contrast-enhanced magnetic resonance imaging (MRI) of the brain was done which revealed innumerable T2 hyperintense lesions with a hypointense eccentric focus in the brain parenchyma, head, and neck muscles. Many lesions showed mild to moderate perilesional edema and a thin peripheral enhancing wall. These resembled starry sky appearance in bilateral cerebral hemispheres (Figure 1A, B) (1). Disseminated intramuscular lesions appeared like snakeskin, so we suggested naming it as a snakeskin appearance (Figure 2A, B). Clinical examination and radiological imaging made the diagnosis of neurocysticercosis (NCC) and disseminated intramuscular cysticercosis. The patient was started on steroids and antiepileptics for initial 3 days during hospital stay. Later, the patient was followed up on albendazole and steroids.

Cysticercosis is caused by accidental ingestion of *Taenia Solium* eggs and it is one of the common causes of acquired epilepsy (2). Humans are definitive hosts and pigs are the intermediate or secondary hosts. Pigs ingest the *Taenia Solium* egg, which develops into infective tapeworm cysts. In the human

small intestine, this tapeworm cyst develops into an adult worm which causes cysticercosis. The clinical presentation of NCC mainly depends on the size, number, location, and stage of the parasite. Common symptoms include altered sensorium, headache, seizures, meningitis, and blindness. The investigation includes cerebral spinal fluid enzyme-linked immunoassay, neuroimaging, fundoscopy, histology, and enzyme-linked immune-electro-transfer blot assay for the detection of antibodies (2). Radiological



**Figure 1A, B.** T2WI-axial sections of cranial CE-MRI show innumerable cystic lesions with hypointense eccentric focus in bilateral cerebral hemispheres (starry sky appearance), orbital muscles, muscles of mastication, facial muscles, tongue and neck muscles  
*CE-MRI: Contrast-enhanced magnetic resonance imaging*

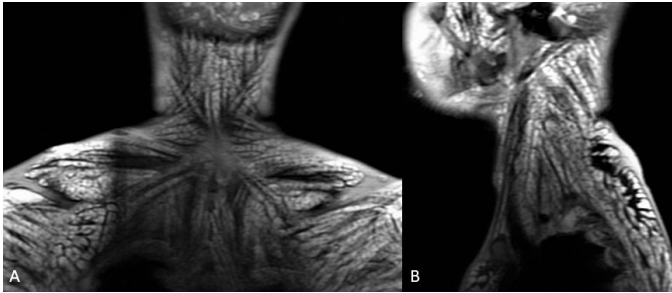
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**Figure 2A, B.** T2WI-coronal and sagittal sections of neck CE-MRI show innumerable cystic lesions with hypointense eccentric focus in neck, shoulder and back muscles (snakeskin appearance)

*CE-MRI: Contrast-enhanced magnetic resonance imaging*

classification of NCC is based on the location and the disease stage and it is divided into five stages: Non-cystic, vesicular, colloidal vesicular, granular, and calcified granular. Inflammatory reactions occur in the colloid vesicular stage. The granulomatous nodule is found in granular NCC which later develops into calcified granular stage (3). In our patient, all the stages of NCC were seen. Various stages of disseminated intramuscular cysticercosis were seen in bilateral ocular muscles, masseter muscles, tongue and neck muscles. It resembled a snakeskin appearance in MRI. Complications include lacunar infarct, stroke, brain hemorrhage and midbrain syndrome. Hydrocephalus may occur due to intraventricular cysts or secondary arachnoiditis or ependymitis in response to massive inflammatory responses. Differential diagnosis includes intracranial tuberculomas, toxoplasmosis, and primary or secondary brain metastasis. Treatment includes antiparasitic drugs and symptomatic medication. Surgery is usually done for obstructive

hydrocephalus (4). NCC is the preventable and likely eradicable cause of seizure and epilepsy. The prognosis of parenchymal NCC is fairly good, however dismal for extra parenchymal NCC. Prognosis depends mainly on the type of infection (3).

#### Ethics

**Informed Consent:** Informed consent was obtained from the patient.

**Peer-review:** Internally peer-reviewed.

#### Authorship Contributions

Surgical and Medical Practices: S.K., D.E., N.R., A.A., Concept: S.K., D.E., N.R., A.A., Design: S.K., D.E., N.R., A.A., Data Collection or Processing: S.K., D.E., N.R., A.A., Analysis or Interpretation: S.K., D.E., N.R., A.A., Literature Search: S.K., D.E., N.R., A.A., Writing: S.K., D.E., N.R., A.A.

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