

Case Report

## Disseminated Cysticercosis - A Rare Case Report

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### ABSTRACT

Disseminated Cysticercosis is a rare condition with very few cases reported worldwide. Pulmonary involvement in Disseminated Cysticercosis is still rarer. Here authors report a case which presented with seizures due to Neurocysticercosis but on evaluation revealed multiple site involvement. Authors conclude that search for involvement of other organs irrespective of absence of symptoms.

**Keywords:** Disseminated, Cysticercosis

### INTRODUCTION

Cysticercosis is caused by *Cysticercus cellulosae*, the larval stage of *Taenia Solium* (Pork Tapeworm). *T. Solium* can cause two clinical forms: Taeniasis and Cysticercosis. Taeniasis occurs by consumption of infected pork containing encysted larvae and here humans are definitive host. Cysticercosis occurs by consumption of eggs by feco-oral route, where humans are intermediate host. [1]

Most common site of cysticercosis is Central Nervous System. [1] Disseminated form of disease is very rare. Skin and subcutaneous tissues are involved frequently in disseminated form. But involvement of lung tissue is very rare with fewer than 10 cases reported. [2]

### CASE REPORT

A 25 year old female patient from rural part of Karnataka state (India) presented with history of two episodes of seizures characterized by tingling sensation over medial 3 fingers of left hand which progressed to loss of consciousness along with tonic clonic movements of all the limbs lasting for 2-3 minutes (Focal onset with secondary generalization). There was no history of fever, headache, cough, blurring of vision, lump in breast, weight loss, joint pain or gynaecological complaints. There was no history of taking any medications. No family history of seizures or any other kind of illness.

On examination, patient was conscious, cooperative and vitals were stable. Seven subcutaneous cystic swellings were present on scalp. No focal deficits,

meningeal signs, neurocutaneous markers, lymphadenopathy, diplopia, proptosis. Fundus was normal.

Complete blood count revealed Hemoglobin 13.6gm%, TLC 7500 and Platelet 4.1 lakhs/mL. ESR was normal. Random Blood Sugar, Renal function tests and Liver function tests were within normal limits. Serological tests for Human Immunodeficiency Virus 1 and 2, Hepatitis B and Hepatitis C were negative. CT Brain revealed “Starry sky appearance” (Figure 2) with multiple millimeter sized cysts seen in both cerebral hemispheres and cerebellum

with scolex (Classical “hole with dot” appearance) (Figure 1). Few of them showed perilesional edema. Chest X ray revealed multiple nodules in both lung fields (Figure 3). No features of infiltrations or hilar lymphadenopathy. Chest CT revealed multiple random nodules of size 5-10 mm, more towards lower lobes (Figure 4). Biopsy of subcutaneous cyst revealed Cutaneous Cysticercosis- Larval stage (Figure 5 & 6). 2D-Echocardiography and ECG was normal. Bronchoscopy did not reveal any mass and broncho-alveolar lavage was normal. Stool examination was normal.



Figure 1. CT Brain showing Multiple Cysts With Scolex (Hole with Dot Appearance).



Figure 2. CT Brain showing Starry Sky appearance characteristic of Neurocysticercosis.

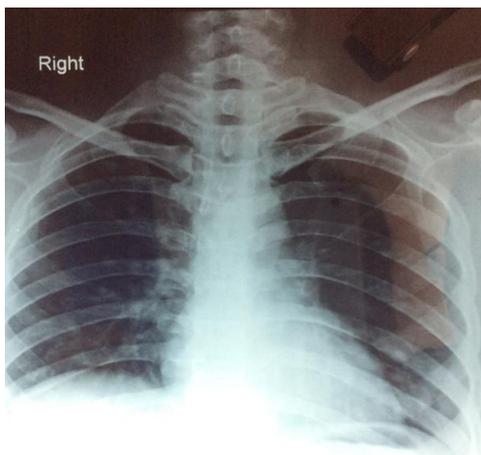


Figure 3. Chest X-Ray PA view showing Multiple nodules on both sides.

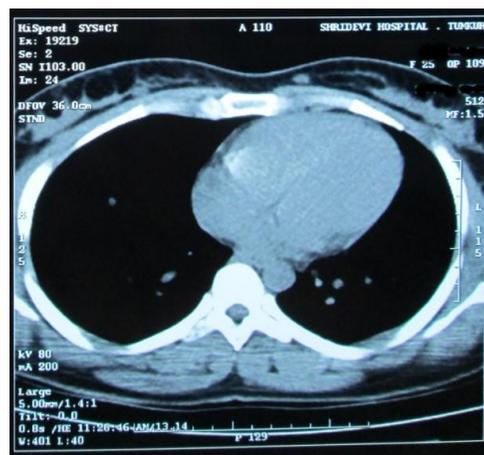


Figure 4. CT Chest showing Multiple Nodules in right lower lobe of lung.

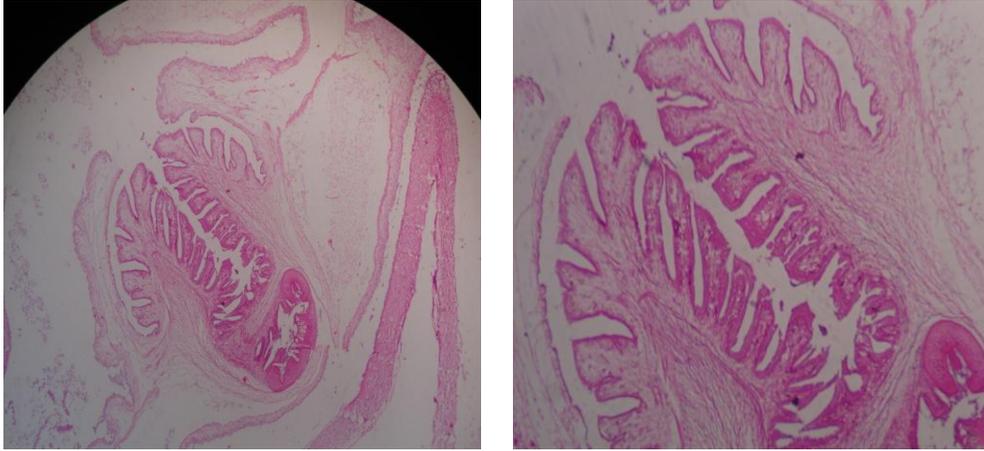


Figure 5 and 6. Histopathology of Subcutaneous Cyst with Cyst wall and invaginated larva.

Diagnosis was established based on revised diagnostic criteria of Neurocysticercosis [3] and biopsy of the subcutaneous lesion. As our case fulfilled absolute criteria of cyst with scolex, no further serological tests were considered. Patient was treated with Oral Steroids, Albendazole 15mg per kg for 8 days and Carbamazepine 10mg per kg. Follow up CT Scan Brain and CT Scan chest after 3 months showed regression of nodules and calcified spots.

## DISCUSSION

Cysticercosis develops when humans are infected with eggs of *T. Solium*. Embryos from the eggs cross the mucosa and disseminate throughout the body. Most common site of cysticercosis is Brain. It is one of the most common causes of acquired epilepsy in endemic areas. It is the most common parasitic infestation of CNS. Based on location Neurocysticercosis is classified into subarachnoid-cisternal, parenchymal, intraventricular and spinal forms. [1] Subarachnoid-cisternal is the most common form and parenchymal form is the second most common form. [1] Parenchymal form is the most common form associated with other organ involvement. [4]

Disseminated cysticercosis has been considered as very rare disease. It frequently involves CNS, striated muscles and

subcutaneous tissue. [2] Pulmonary and cardiac involvement is extremely rare. Most common thoracic organ affected in disseminated cysticercosis is cardia and pulmonary is next to it. Occasionally both are involved. Descending order of other organ involvement in patients with Neurocysticercosis and Disseminated cysticercosis are Cardiac, Pulmonary, Lingual, Orbital and Cardiopulmonary. [4] In our case patient presented with most common symptom of Neurocysticercosis, Seizures. She was totally asymptomatic of pulmonary involvement. It was an incidental finding. Even though striated muscles are commonly affected in disseminated cases, our case had no involvement of skeletal muscles. Previous study has concluded that cysticercosis should be considered in the differential diagnosis of multiple pulmonary nodules and they stressed the role of CT scan of the chest. [5] A study concluded that diagnosis of pulmonary cysticercosis can be aided by identifying extrapulmonary lesions and hence avoiding unnecessary investigations. [2] Infectious causes with multiple pulmonary nodules and cutaneous manifestations are tuberculosis, cysticercosis, blastomycosis and coccidioidomycosis. [4] In our case biopsy of the cutaneous lesion confirmed larval stage of cutaneous cysticercosis.

## CONCLUSION

Disseminated Cysticercosis is a rare disease. A high degree of suspicion is needed for diagnosis and a search has to be made for involvement of other organs, as the patient may be asymptomatic despite widespread dissemination. Finding of extra pulmonary lesions helps to reduce the differential diagnosis of pulmonary nodules.

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