

## Case Report

# A Case of Isolated Cysticercosis of Arm with Review of Literature

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## Abstract

Cysticercosis refers to tissue infection after exposure to eggs of *Taenia solium*, the pork tapeworm. The disease is spread via the fecal-oral route through contaminated food and water, and is primarily a food borne disease. The case report here describes a rare case of isolated cysticercosis infection of the arm with review of literature. A 12 year old female came with complains of swelling of the left arm, ultrasound revealed intramuscular cysticercosis for which surgical excision was done. This is a rare case of cysticercosis infection of the arm without involving the any vital organs. The literature is being reviewed and the case is been presented.

## INTRODUCTION

The tapeworm that causes cysticercosis is endemic to many parts of the world including China, Southeast Asia, India, sub-Saharan Africa, and Latin America. Worldwide as of 2010 it caused about 1,200 deaths up from 700 in 1990 [1]. Cysticercosis refers to tissue infection after exposure to eggs of *Taeniasolium*, the pork tapeworm. The disease is spread via the fecal-oral route through contaminated food and water, and is primarily a food borne disease [2]. The Clinical syndrome caused by this parasite is categorized as either neurocysticercosis or extraneural cysticercosis (intestinal tapeworm, subcutaneous or muscular cysticerci infection which is one of the causes of lump in human beings [3]. The cases can be treated medically or surgically. We report a rare case of surgically treated isolated cysticercosis involving the arm in the region of Kolar, Karnataka, India

## CASE REPORT

A 12 year old female presented in General surgery OPD of R L Jalappa hospital. She was non -vegetarian. Her chief complaints were lump in left arm for 2 months. The onset was insidious, slowly progressive in nature and associated with occasional mild grade pain and discomfort.

On examination, there was a single mass in the anterior surface of left upper arm, approximately 9x6cm in size, not fixed to skin, slightly movable and mildly tender (Figure 1).

The ultrasonography report showed intra muscular cysticercosis with collection. Patient was treated surgically, complete excision of cyst was done (Figure 2). Histopathological report showed features consistent with degenerated cysticercous cyst. Post operatively patient developed surgical site infection

(Figure 3), which was treated with appropriate antibiotics and antihelminths. Secondary suturing of the wound was done.

## DISCUSSION

Taeniasis, the condition caused by infection with adult worm, *Taenia solium*, is worldwide in distribution, but endemic in some parts of the world. While taeniasis is rarely seen in those who do not eat pork, cysticercosis occurs in all ethnic groups regardless of dietary habits. Cysticercosis in man is caused by the encystment of the larval form of *T. solium* and is the most important clinical manifestation of *T. solium* infection in man [4].

In the normal life cycle of *T. solium*, man is the definitive host and pig is the intermediate host. Cysticercosis in man occurs when man accidentally becomes the intermediate host, by ingestion of eggs through contaminated water and food which in turn is related to poor hygiene and poverty, therefore, the disease is mainly seen among low socio-economic classes in China, Eastern



Figure 1 Anterior Surface of left upper arm showing the swelling.



**Figure 2** Intraoperative picture showing excision of cyst.



**Figure 3** Post-Op Picture showing Surgical Site Infection following excision.

Europe, India, Indonesia, Latin America and Pakistan [5].

The incubation period ranges from months to over ten years. Ova are digested in the stomach and release oncospheres which penetrate the intestinal wall and reach the bloodstream. These oncospheres develop into cysticerci in any organ but are common in brain, subcutaneous tissue, muscle or eyes [3].

The Cysticerci can develop in any voluntary muscle in humans. Invasion of muscle by cysticerci can cause myositis with fever, eosinophilia and muscular pseudo hypertrophy leading to atrophy and fibrosis. In most cases, it is asymptomatic since the cysticerci die and become calcified [1,3].

Previously stool samples were used to demonstrate tapeworm eggs but only a small minority of patients with cysticercosis will harbor a tapeworm, rendering stool studies ineffective for diagnosis.

Antibody to cysticerci by ELISA method is more sensitive and specific. However, Individuals with intracranial lesions and calcifications may be seronegative. cysticercosis-specific antibodies can react with structural glycoprotein antigens from the larval cysts of *T. solium* [6]. The author recommends keeping cysticercosis as a differential diagnosis for any isolated subcutaneous or intramuscular swelling, especially in tropical countries like India. Ultrasonography is useful for subcutaneous and muscular cysticercosis [7]. CT or MRI is the most useful method of diagnosis. CT scan shows both calcified and uncalcified cysts, as well as distinguishing active and inactive cysts [8]. Treatment recommendations for subcutaneous and muscular cysticercosis include surgery and antihelminthics [9].

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