Disseminated cutaneous cysticercosis and neurocysticercosis: A rare occurrence

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ABSTRACT

Disseminated cysticercosis is a parasitic infestation of pork tapeworm, *Taenia solium*. A 19-year-old female presented with multiple nodules all over her body since 12 months. Histopathology showed features suggestive of parasitic granuloma with multinucleated giant cells and plenty of eosinophils admixed with necrosis. Ultrasonography of these lesions showed multiple well-defined cystic lesions of varying size with a few specks of calcification. Cranial computed tomography scan showed bilateral, multiple, small hyperdense lesions in the supratentorial compartment. She was treated with oral albendazole and oral corticosteroids. This case is being reported because of its rare, disseminated nature with cutaneous, neural and ocular involvement.

Key words: Cysticercosis cellulosae cutis, disseminated cutaneous cysticercosis, neurocysticercosis, *Taenia solium*

INTRODUCTION

Human cysticercosis, a potentially deadly infestation, is the consequence of ingestion of eggs of *Taenia solium*.[1] Cysticercosis is the most common parasitic infestation of the central nervous system, muscle and subcutaneous tissue.[2] About 54% of the patients present with subcutaneous nodules.[3] Here, we report a case of disseminated cysticercosis with multiple nodules in the subcutaneous tissue, brain and eyes.

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CASE REPORT

A 19-year-old female patient presented with multiple swellings of 1 year duration all over the body. The lesions started as two small swellings over the right side of the forehead. Since then, it gradually spread to involve the whole body [Figures 1–3] over a period of 4 months. The lesions were asymptomatic.

She gave a history of seizures 10 months ago. They were generalised tonic clonic seizures with loss of consciousness in the post ictal period.

On examination, multiple nodules (approximately 80) were present all over the body. They were skin-colored, well-circumscribed, nontender, firm in consistency, mobile and varying in size from 0.5 - 1.5 cm in diameter. There was no regional or generalised lymphadenopathy. Systemic examination was normal. Ocular examination revealed proptosis and papilledema of the left eye. Haemoglobin was 11 g% and peripheral blood smear showed normocytic hypochromic anemia with mild eosinophila. Erythrocyte sedimentation rate was 49 mm/hr. Absolute eosinophil count was 890/cu mm. Stool examination showed no parasites. Urine examination showed plenty of pus cells. Enzyme-linked immunosorbent assay for human immunodeficiency virus was nonreactive. Chest X-ray and skeletal assay were normal.

Histopathology showed features suggestive of parasitic granuloma with multinucleated giant cells and plenty of eosinophils admixed with necrosis [Figure 4]. Sections showed a parasite with prominent cuticle and suckers. Ultrasonography of these lesions showed multiple well-defined cystic lesions of varying size with a few specks of calcification [Figure 5]. Cranial computed tomography (CT) scan showed bilateral multiple small, hyperdense lesions in the supratentorial compartment. A few lesions were surrounded by perilesional edema. These lesions showed irregular enhancement in the postcontrast study. CT features were suggestive of neurocysticercosis.

Based on the clinical features and investigations, a diagnosis of disseminated cysticercosis was made and the patient was started on oral

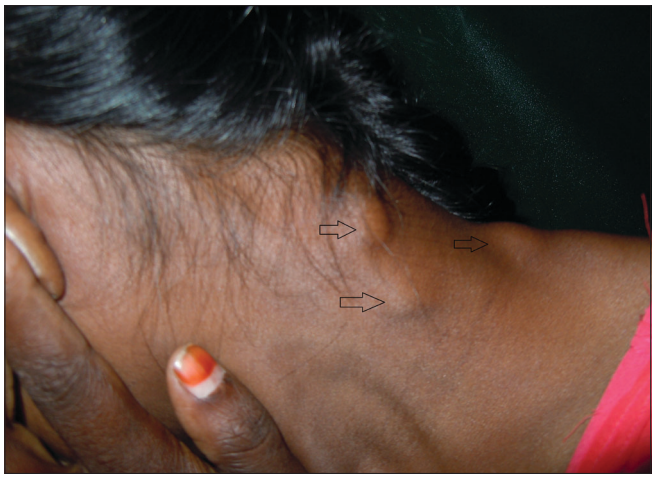

Figure 1: Subcutaneous circumscribed swellings over the neck

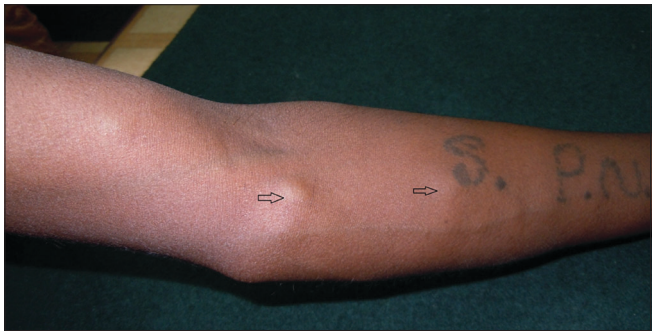

Figure 3: Subcutaneous circumscribed swellings over the forearm

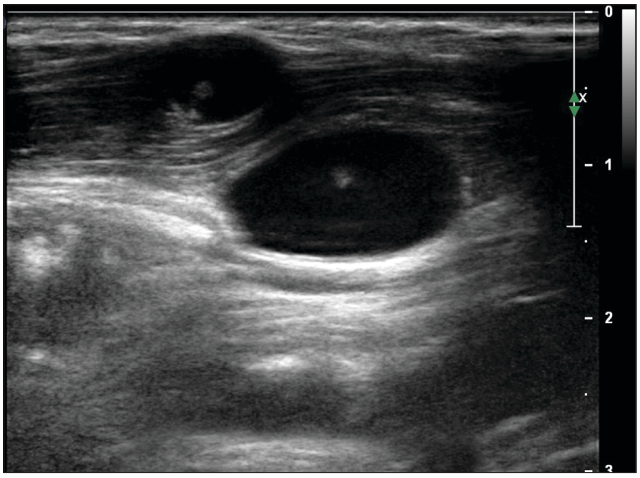

Figure 5: Ultrasonogram of the left forearm showing well-defined cystic lesions

albendazole 400 mg twice daily and prednisolone 20 mg twice daily for 3 weeks. Prednisolone was then tapered and stopped. There was an average decrease in the size of the cutaneous nodules by 0.5 cm after 3 weeks of treatment.

DISCUSSION

Cysticercosis is caused by the larva of the cestode, *Taenia solium*, a pork tape worm. In India, the first case of cutaneous cysticercosis was recorded by Campbell and Thomson in 1912.[1] The ova of pork tapeworm are spread via the faeco–oral route.[2] Cysticercosis is the most common parasitic disease

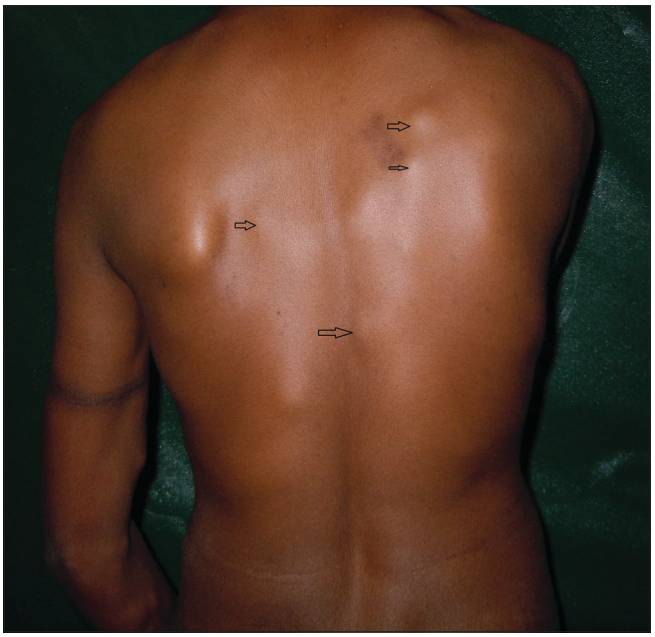

Figure 2: Subcutaneous circumscribed swellings over the back

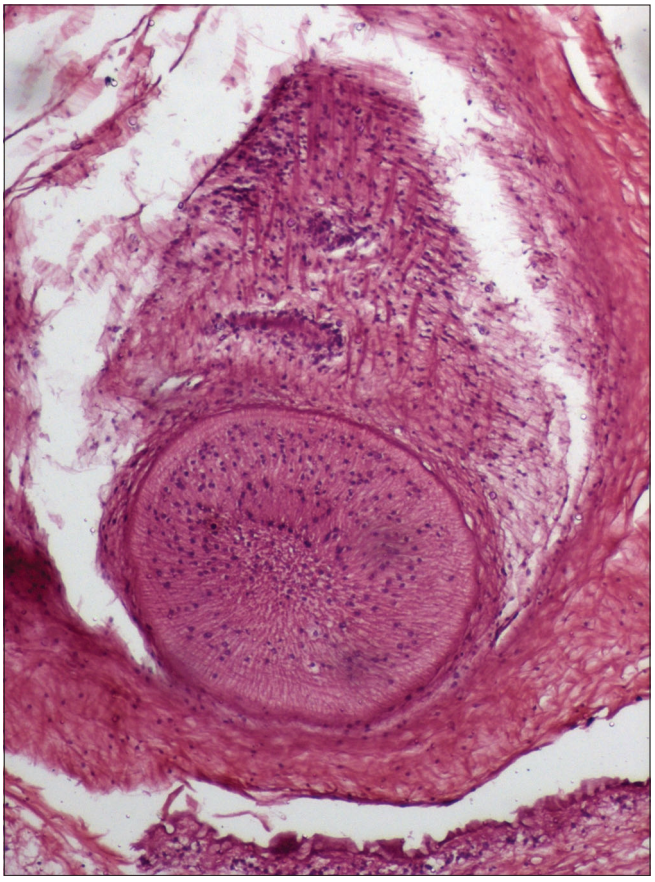

Figure 4: Histopathology showing features suggestive of parasitic granuloma with multinucleated giant cells and plenty of eosinophils admixed with necrosis

of the central nervous system in the world, but cysticercosis cutis has been reported much less frequently.[3] The infection is common in India, Africa, Mexico and South America.[4] In taeniasis, the adult *Taenia solium* lives attached to the wall of the small intestine and may reach a length of 7 m.[5] Ova from the adult worm in human small intestine are passed in feces and may remain viable for weeks.[6] Less than 50 disseminated cysticercosis cases have been reported worldwide.[7]

Approximately one-half of the patients with cysticercosis present with subcutaneous nodules.[6] However, the association of neural and subcutaneous cysticercosis is not common.[2] Our case developed subcutaneous nodules initially and then developed neurological manifestations. Histopathology showed a thick, fibrous capsule covered by several layers of epithelioid cells admixed with a few Langerhans giant cells but without caseous necrosis surrounding a cystic cavity containing clear fluid and a white, irregularly shaped membranous structure representing a cysticercus larva.[8] CT showed typical appearances in brain and muscle.[5]

The management of cysticercosis has been a topic of debate.[4] Albendazole and praziquantel are both effective.[6] Albendazole is more effective and less-expensive than other drugs for the treatment of neurocysticercosis.[3] After 2 weeks of treatment with oral albendazole (10 mg/kg/day), there is a decrease in the size and number of the nodules.[2] Individual subcutaneous cysts may be removed if desired.[5] The currently accepted regimen for systemic, neurological and multiple cysts is either albendazole given for 8 days or longer in the dose of 15 mg/kg daily with simultaneous administration of steroids or 15 days of praziquantel (50 mg/kg daily).[4]

The case is being reported because of its disseminated cutaneous involvement and its association with neurocysticercosis.

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