Case Report

Myocysticercosis: A rare entity in pregnancy

Geeta Katheit Rai[1], Shivangini Sahay[2], Shikha Maurya[3], Veena Vidyasagar[4]

From [1]Assistant Professor, [2]Senior Resident, [3]Postgraduate, [4]Professor, Department of Obstetrics and Gynaecology, School of Medical Sciences and Research, Sharda University, Greater Noida, Uttar Pradesh, India

ABSTRACT

The larval form of *Taenia solium* causes cysticercosis which involves the central nervous system, eyes, gastrointestinal system, skeletal muscles, and subcutaneous tissues. Isolated muscular involvement is rare with only a handful of cases reported in the literature. We present this case of a 24-year-old primigravida who was admitted at 35 weeks 2 days of gestation with severe preeclampsia with intrahepatic cholestasis of pregnancy with cholelithiasis with bilateral pedal edema and was diagnosed in the post-operative period to have myocysticercosis which poses a diagnostic dilemma. This should be considered in differential diagnosis in developing nations, and especially in endemic regions. High-resolution ultrasound was important in the diagnosis but magnetic resonance imaging was confirmatory. The treatment of choice is anti-helminthic drugs and oral steroid medications.

Key words: Antihelminthic, Cysticercosis, Myocysticercosis in pregnancy, Pedal edema, steroid, *Taenia solium*

Cyst tapeworm is a parasitic infection caused by the larval form of *Taenia solium*, the pork tapeworm [1]. This infection is prevalent in developing countries where sanitation is inadequate, and humans have close interactions with pigs, which are common sources of food [2]. While the central nervous system (CNS) is often affected, cysticercosis can also involve the eyes, subcutaneous tissues, liver, gastrointestinal tract, skeletal muscle, and occasionally the lungs and heart. Isolated muscle involvement is rare and can be challenging to diagnose due to its non-specific clinical presentation, which may mimic other conditions [3]. High-resolution ultrasound is an effective diagnostic tool for identifying intramuscular and subcutaneous lesions.

CASE REPORT

A 24-year-old primigravida at 35 weeks and 2 days of gestation, who had not received any antenatal care, was referred to our hospital due to mild abdominal pain, itching, and headache persisting for 2 days. She had irregular antenatal visits and was non-compliant with routine supplements such as iron, calcium, and folic acid.

On examination, she was afebrile, with a pulse of 92/min and blood pressure of 150/100 mmHg. Abdominal examination showed a relaxed uterus measuring around 34 weeks, in a longitudinal lie with a cephalic presentation and a fetal heart rate of 134 bpm. A vaginal examination revealed a soft, central cervix that was early effaced, and 1 cm dilated, with membranes intact and the fetal station high up. Mild pallor and bilateral pedal edema were noted.

The patient received an intravenous (IV) dose of labetalol and was monitored for blood pressure. Dexamethasone was administered to promote fetal lung maturity. Laboratory investigations indicated mild anemia, elevated liver enzymes (SGOT/SGPT 279/119 mIU), and elevated serum bile acids (37IU). An abdominal ultrasound suggested cholelithiasis, and urine analysis showed 2+ albumin.

On day 2, the patient underwent an emergency cesarean section due to fetal distress, which was successful. Postoperatively, she was started on IV antibiotics. On post-operative day 3, a dressing check revealed that it was dry, but the patient complained of bilateral leg pain, leading to a consultation regarding possible deep vein thrombosis (DVT). A color Doppler study of the lower limbs revealed a 1.1 × 0.7 cm mass in the calf of the left leg, suggestive of myocysticercosis (Fig. 1).

A medical opinion was sought, and the patient was started on albendazole 400 mg daily for 14 days, along with oral steroids (omnacortil 40 mg daily for 7 days, tapered weekly by 10 mg). A magnetic resonance imaging (MRI) of the thigh showed a hyperintense lesion measuring 2.1 × 0.6 cm with eccentric hypointensity in the intermuscular plane of the adductor muscles, consistent with myocysticercosis (Fig. 2). A non-contrast

Access this article online

Received - 24 October 2024
Initial Review - 09 November 2024
Accepted - 13 December 2024

DOI: 10.32677/ijcr.v11i1.4868

Quick Response code

Correspondence to: Geeta Katheit Rai, A-39, Ramayan South Avenue Phase 2, Katara Hills Extension, Bhopal, Madhya Pradesh-462043, Uttar Pradesh, India. E-mail: geetakatheit.06@gmail.com

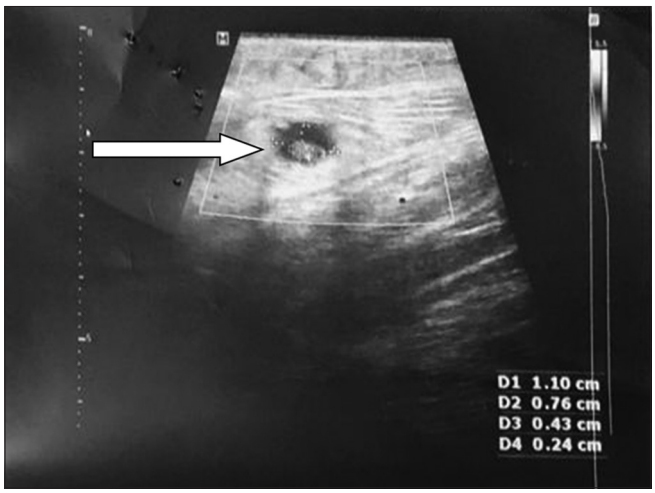

Figure 1: Ultrasound color Doppler lower limb

Figure 2: Magnetic resonance imaging of bilateral thigh

computed tomography (CT) scan of the brain was normal. The patient was discharged on post-operative day 8 after suture removal and followed up in the outpatient department.

DISCUSSION

Cysticercosis is transmitted to humans through the ingestion of *T. solium* eggs from contaminated food or water. About 86% of cases affect the brain and eyes, while the remaining 14% can occur in various tissues, including subcutaneous, pulmonary, cardiac, muscular, hepatic, and oral locations. Humans serve as the definitive host for *T. solium*, whereas pigs act as the primary intermediate host, alongside other animals such as dogs and cats. Factors contributing to the disease burden include geography, ethnicity, religion, socioeconomic status, education, dietary habits, and sanitation [4].

This case is notable for being the first documented instance of myocysticercosis during pregnancy. While similar cases exist in the literature that focused on neurocysticercosis as a differential diagnosis for seizures during pregnancy, our case demonstrates unique characteristics [5].

Isolated muscular cysticercosis without CNS involvement is rare. Typically, muscular infections are associated with CNS involvement or multiple cysts. It is essential to rule out CNS or ocular involvement through comprehensive clinical evaluation and imaging [6]. Unlike neurocysticercosis, isolated muscle involvement is generally non-fatal. Clinical manifestations can vary based on the pathogenesis, including the myalgic type, mass-like pseudotumor type, and the rare pseudohypertrophic type [7]. CNS involvement can present with symptoms such as seizures, headaches, and hydrocephalus, while ocular cysts may cause vision problems. Cysts outside the CNS are usually asymptomatic, though small nodules may develop subcutaneously [8].

Diagnostic modalities include ultrasound, CT, and MRI. In our case, high-resolution ultrasound and MRI confirmed the diagnosis, revealing characteristic cystic lesions [9].

Preventing *T. solium* infections is possible through improved personal hygiene, safe food preparation, and regular deworming practices. A vegetarian diet or non-consumption of pork is not a criterion for exclusion of the diagnosis [10]. Treatment depends on factors such as the cyst location, number, and associated symptoms. Only symptomatic patients require treatment, and surgical excision is considered only after failure of medical therapy [10].

CONCLUSION

While solitary intramuscular cysticercosis is uncommon, particularly during pregnancy, it should be considered in patients with intramuscular or subcutaneous masses, especially in endemic regions. Patients complaining pain and swelling in lower limbs especially postoperatively raise the suspicion of DVT. Myocysticercosis though a rare entity should be considered in differential diagnosis of such patients, especially in endemic areas. High-resolution ultrasound and MRI are valuable non-invasive diagnostic tools for confirming the condition. However, their availability can be an issue in small centers. Hence, clinical suspicion is a key for diagnosis. Treatment is typically reserved for symptomatic cysts.

REFERENCES

1. Yadav SK, Marwah S, Bhukkal B, Singh R. Myocysticercosis as a rare cause of hand swelling involving thenar group of muscles: A rare case report and literature review. Int J Surg Sci 2019;3:79-80.
2. Kumar V, Reyaz M, Gupta SK, Kumar P. A rare case report of solitary intramuscular cysticercosis of right forearm involving the extensor muscle group. Int Surg J 2018;5:1595-7.
3. Ogilvie CM, Kasten P, Rovinsky D, Workman KL, Johnston JO. Cysticercosis of the triceps--an unusual pseudotumor: Case report and review. Clin Orthop Relat Res 2001;382:217-21.
4. Dhiman R, Devi S, Duraipandi K, Chandra P, Vanathi M, Tandon R, *et al*. Cysticercosis of the eye. Int J Ophthalmol 2017;10:1319-24.
5. Singh S, Munikrishna M. Diagnostic dilemma: Neurocysticercosis-A differential diagnosis for seizures in pregnancy and early postpartum period. J South Asian Fed Obstet Gynecol 2021;13:84-6.
6. Jankharia BG, Chavhan GB, Krishnan P, Jankharia B. MRI and ultrasound in solitary muscular and soft tissue cysticercosis. Skeletal Radiol 2005;34:722-6.
7. Anderson GA, Chandi SM. Cysticercosis of the flexor digitorum profundus muscle producing flexion deformity of the fingers. J Hand Surg Br 1993;18:360-2.

8. Cysticercosis - Genetic and Rare Diseases Information Center; 2017. Available from: https://rarediseases.info.nih.gov/diseases/8194/cysticercosis [Last accessed on 2021 Jun 09].
9. Vijayaraghavan SB. Sonographic appearances in cysticercosis. J Ultrasound Med 2004;23:423-7.
10. Aradhya PS, Shet K, Prakash O, Dhillon DS, Chavda J. Isolated myocysticercosis of pectoralis major: A rare case. Cureus 2024;16:e55320.

Funding: Nil; Conflicts of interest: Nil.

How to cite this article: Rai GK, Sahay S, Maurya S, Vidyasagar V. Myocysticercosis: A rare entity in pregnancy. Indian J Case Reports. 2025; 11(1):28-30.