

Extracalvarial Hydatid Cyst in the Left Parietal Region: A Very Rare Presentation in an Elderly MalePVS Abhishek¹, Chedipothula Indraja², Samhitha³¹Associate Professor, Department of Radiodiagnosis, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India²Resident, Department of Radiodiagnosis, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India³Resident, Department of Radiodiagnosis, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India

Received: 27-08-2025 / Revised: 25-09-2025 / Accepted: 27-10-2025

Corresponding Author: Dr. PVS Abhishek

Conflict of interest: Nil

Abstract:

Hydatid disease, caused by the larval stage of *Echinococcus granulosus*, most commonly affects the liver and lungs. Intracranial and extracranial involvements are rare and typically occurs in the brain parenchyma. An extracalvarial hydatid cyst without bony involvement is extremely uncommon. We report a rare case of a large extracalvarial hydatid cyst in the left parietal region of a 70-year-old male, detected incidentally on non-contrast CT imaging.

Keywords: Hydatid, Calcified membranes, Extracalvarial,

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Introduction

Hydatid disease (cystic echinococcosis) is a zoonosis caused by *Echinococcus* tapeworms in which cysts most commonly lodge in the liver (~60–70%) and lungs (~20–30%), with other sites being distinctly uncommon.[1] Central nervous system involvement itself is rare (~2% of cases), and when present the parietal lobe is a frequent intracranial location; however, extracalvarial (scalp/soft-tissue) manifestations adjacent to the calvarium are exceedingly rare and easily overlooked.[2] Calvarial hydatids with extracalvarial extension have been described only sporadically, underscoring the diagnostic challenge when a painless parietal swelling mimics benign cysts or tumors.[3] Primary subcutaneous hydatid cysts are themselves exceptional (often presenting as a slow-growing, painless mass with frequently negative serology), which further broadens the differential for scalp lesions in endemic regions.[4] Given these epidemiologic patterns and the risk of intraoperative spillage, recognition of an extracalvarial hydatid cyst in the parietal region of an elderly male relies on a high index of suspicion supported by characteristic imaging and careful en-bloc excision

with albendazole therapy as adjunct, aiming to prevent recurrence and anaphylaxis.

Case report

70-year-old male, farmer, living in close contact with dogs, presented with bulging mass in left parietal region that gradually increased in size over 3 years. On admission, physical examination showed a soft, painless mass located in the left parietal region measuring approximately 79x75 mm. Neurological examination was within normal limits. Analysis of peripheral blood samples showed findings within the normal range, except for the presence of an eosinophilia. Hydatid serologic tests were negative. CT scan demonstrated a well-circumscribed extracalvarial soft tissue lesion with calcified membranes and hyperattenuated internal soft tissue content with no evidence of any bony erosion or involvement of calvarium. The patient underwent excision of lesion and it is sent for excisional biopsy and it confirmed the diagnosis. other investigations such as ultrasound abdomen were done and no other organ involvement is seen. The patient was discharged after the excision and received albendazole treatment.

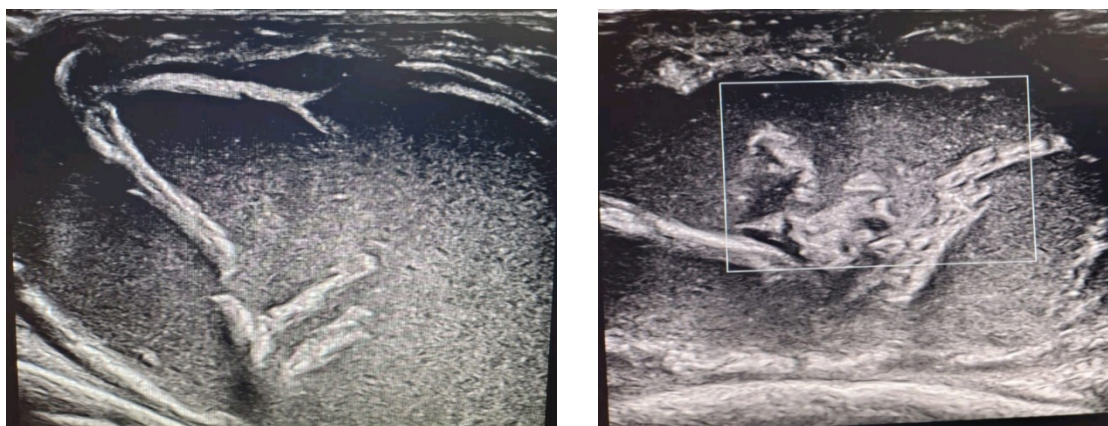


Figure 1: USG images showing extracalvarial heterogeneously hypoechoic lesion with calcified wall and membranes in left parietal region



Figure 2 : Coronal section images in CT showing extracalvarial heterogeneously hypodense lesion with calcified wall and membranes in left parietal region



Figure 3 : Sagittal section image in CT showing extracalvarial heterogeneously hypodense lesion with calcified wall and membranes in left parietal region

Discussion

Hydatid disease, also known as echinococcosis, is a zoonotic parasitic infection caused primarily by *Echinococcus granulosus*. It remains endemic in regions with widespread livestock farming, including parts of the Middle East, South America, Africa, and South Asia. Humans serve as accidental intermediate hosts and acquire the disease by ingesting eggs shed in the feces of definitive hosts (usually dogs).

Hydatid cysts most commonly affect the liver (50–70%) and lungs (20–30%), but they can also occur in atypical locations such as the brain, bones, kidneys, heart, and soft tissues. In rare instances, involvement of the scalp or subcutaneous tissues is observed, as in our case.

The clinical presentation of hydatid cysts depends on the site, size, and complications such as infection

or rupture. In superficial locations like the scalp, patients usually present with a slow-growing, painless swelling. Because of its rarity in such locations, a preoperative diagnosis is challenging and is often confused with benign cystic lesions like epidermoid or sebaceous cysts.

Imaging plays a vital role in diagnosis:

- Ultrasound shows cystic lesions with internal septations and daughter cysts.
- CT and MRI provide better anatomical detail and can demonstrate the characteristic "cyst within a cyst" or water lily sign.
- Serologic tests (e.g., ELISA) may assist in diagnosis, though false negatives are possible in localized disease.

Definitive treatment involves surgical excision of the cyst, ideally without rupture to prevent recurrence and anaphylactic reaction. Intraoperative

use of scolicedal agents (e.g., hypertonic saline or povidone-iodine) is often recommended. Albendazole therapy is used pre- and post-operatively to reduce recurrence risk

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