Abstract
Hydatid disease is caused by Echinococcus granulosus and is endemic in many parts of the world, including India. This parasitic tapeworm can produce cysts in almost every organ of the body, with the liver and lung being the most frequently targeted organs. The dissemination of disease is hematogenous. We report a case of disseminated echinococcosis presenting with neurological deficit and found to have intramyocardial cyst which is rare. The patient was operated for the intracranial cysts and managed with albendazole therapy and for the cardiac lesion managed conservatively.

Key words: Hydatid cyst, Disseminated Infection

Introduction
Echinococcosis is a parasitic disease and these parasites are found in all continents with high prevalence in china, central Asia, the middle east and other regions of Mediterranean and South America. E. granulosus is the most frequently encountered type in India. The disease is caused by larvae of echinococcus. Humans are the intermediate host and acquire the disease through ingestion of infected food materials. Rupture or spillage, spontaneous or owing to external influences, into the body’s circulatory system results in dissemination of the disease. The heart and brain are infrequently affected (0.5-2% and 2% respectively) [1].

Case report
A 35 year old female who does sheep rearing, presented with weakness of both right upper limb & lower limb, since 6 months which was progressive in nature. Patient had sought native treatment for the same. Headache of 20 days duration holocranial, continuous associated with vomiting. Loss of consciousness since 2 days. No history of seizure, bladder & bowel disturbances. Not a hypertensive, diabetic, asthmatic. No history of
similar complaints in the past. No history of tuberculosis, HIV contact. Examination revealed patient is unconscious, afebrile, pulse- 80/min, regular, blood pressure- 100/70 mm Hg, lower limb pulses were feeble. Spasticity in right upper and lower limbs, pupils reacting, no signs of meningeal irritation, splenomegaly was present.

CT brain plain revealed cystic space occupying lesions and ultra sonogram revealed enlarged liver and spleen with cystic lesions suggestive of hydatid disease, and CT chest showed lesions in the left lower zone of lung. Angiography showed lesions in the iliac vessels (common iliac extending into both internal and external iliac vessels). Biochemical and hematological parameters were within normal limits. Based on the above findings the diagnosis is disseminated hydatid disease. Neurosurgical intervention was done and cysts were removed and started on therapy with albendazole and other supportive measures patient gradually improved and was discharged ambulatory and advised to review for cardiac lesion management.

Written consent was taken from the patient for publishing this case.

Figure 1: CT brain plain showing intracerebral cystic space occupying lesion

Figure 2: Intra operative extraction of hydatid cyst

Figure 3: Echocardiogram showing intramyocardial cyst
Discussion

Echinococcosis occurs in human beings as intermediate host, acquired by ingestion of contaminated food with canine feces containing eggs. The principal species affecting the human beings is E.granulosis and E.multilocularis. E.granulosis transmitted by domestic dogs in areas with livestock like sheep, cattle. The exact percentage of site involvement varies and the exact incidence of unusual locations is difficult to ascertain as they are only reported as case reports. In 10% cases, hydatid disease arises in the viscera; mainly in the spleen (0.9–8%) and also in kidney, bone, heart muscles and peritoneal cavity (0.5–5%) [2].

The larvae of this organism usually develop as discrete single cysts, it is the least severe and most treatable form. Nevertheless, large or multiple cysts may cause irreversible damage to organs and the rupture or puncture of the cyst can seed multiple organs with larvae or cause anaphylactic reactions. Humans typically become symptomatic many years after infection [3].

Infections are usually asymptomatic and noticed incidentally. Depending on the location they may include abdominal pain chest discomfort, cholangitis, portal hypertension, bronchial obstruction leading to segmental collapse. Cystic rupture or leakage may lead to allergic reaction leading to fever and hypotension. Seeding of new areas occur following rupture. Intra-operatively, the use of hypertonic saline or 0.5% silver nitrate solutions before opening the cavities tends to kill the daughter cysts and therefore prevent further spread or anaphylactic reaction [4]. Diagnosis is usually based on imaging studies. Immunoelectrophoresis, enzyme-linked immunosorbent assay (ELISA), latex agglutination and indirect haemagglutination (IHA) test are being carried out for the diagnosis, screening and post-operative follow up for recurrence [5].

The treatment of choice for localized hydatid cysts in liver or lungs is principally surgical while the therapy for disseminated peritoneal hydatidosis remains medical [6]. Therapy with albendazole or praziquantel remains the mainstay of medical therapy. After medical treatment, the hydatid cysts show gradual reduction in cyst size and number and the follow up is advisable with Ultrasonography or CT scan [6,7]. Treatment modalities include cautious surgical resection, albendazole along with surgery. Mebendazole is an alternative drug and praziquantel can also be effective.

Brain

Cerebral involvement is very rare (1-3%), and more common in children [8]. Cerebral hydatid cysts are usually supratentorial, the infratentorial lesions are quite rare. Intracranial hydatid cysts are commonly solitary. Multiple intracranial cysts are rare.

Heart & vessels

Cardiac and vascular hydatid cysts are rare. Cardiac hydatid cysts are found in fewer than 2% of cases of hydatidosis and may present as complete heart block, constrictive pericarditis and congestive cardiac failure [9]. The symptoms depend upon the location duration and integrity of the cyst. The most common location is the free wall of left ventricle (50-77%) or interventricular septal wall followed by
atria. Cardiac echinococcosis rarely mimics acute coronary syndromes [10]. Patients with left ventricular involvement, ECG may show ischemic changes in T wave, while the involvement of the interventricular septum may be associated with atrioventricular conduction defects, or right bundle branch blocks. Echocardiography and MRI are of great value in diagnosing and determining the anatomic extent and relationship of the cyst in cardiac hydatidosis. The treatment of choice for cardiac hydatid cysts is surgical excision [11]. For patients who cannot undergo surgery PAIR (puncture, aspiration, injection, and re-aspiration) is indicated [10].

Arterial involvement of hydatid cysts usually develops after cardiac hydatid cyst rupture and embolization [12]. These hydatid cysts can also result in arterial occlusions in the aorta, iliac arteries, femoral arteries, popliteal arteries and even the myocardial arteries [13].

Lungs

In patients with hydatid cysts at multiple sites, up to 26.30% of the cysts may be located in the lungs [14]. Patients with pulmonary echinococcosis usually present with cough, chest pain and dyspnea.

Conclusion

Echinococcal disease should be taken into consideration in the differential diagnosis of every cystic mass in any anatomic location in endemic areas. If multiple organs are involved we have to screen heart for hydatids. These unusual locations often produce nonspecific symptoms; consequently, it is advisable that the hydatid cyst be considered in the differential diagnosis of all cysts of the body, especially in endemic countries such as India.

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References
