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Case Report

A rare case of spinal hydatid cyst (echinococcosis) presenting with paraparesis

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ABSTRACT

Spinal hydatid cysts, although rare, can lead to debilitating neurological deficits if not promptly diagnosed and managed. We present an intriguing case of a 60-year-old male who presented with sudden-onset paraplegia, an unusual manifestation of spinal hydatid disease. The clinical complexity of paraplegia prompted a comprehensive diagnostic journey involving clinical, and radiological evaluations. Imaging studies unveiled a large hydatid cyst within the spinal canal, with epidural extension compressing the spinal cord. Surgical intervention was undertaken, and the cyst was successfully excised, leading to partial neurological recovery. This case serves as a reminder of the diverse clinical presentations of hydatid cysts and highlights the significance of maintaining a high index of suspicion in endemic regions. Early diagnosis, tailored management, and heightened awareness are pivotal in averting irreversible neurological damage and enhancing patient outcomes in such challenging cases.

Keywords: Echinococcosis, Paraplegia, Hydatid cyst

INTRODUCTION

Hydatid disease is an important infestation caused by the parasite Echinococcus granuloses and is still common in countries in the temperate zones, including the Mediterranean countries, the Middle East, South America, New Zealand, Australia, Southeast Asia and China.[1] The characteristic cystic lesions of disease are mainly found in the liver and the lungs, but virtually any part of the body may be affected, including the bone and the central nervous system.[2]

Echinococcosis originating from the spinal cord or spinal canal is extremely rare. Spinal hydatid cyst disease usually presents as cauda equina symptoms or symptoms of spinal cord compression. This case report presents a rare case of spinal Hydatids presented with complaint of radicular lumbar pain and paraparesis.

CASE REPORT

A 60-year-old male patient, reported to the medicine casualty with a complaint of lower back pain and unable to move both of his lower limbs for 4 days, associated with dribbling of urine and constipation for 6 days.

History of tingling numbness present first to left lower limb, thereafter extending to bilateral lower limb for 15 days. No history of trauma to back, vomiting, loose motions, fever, seizure, or loss of consciousness.

Higher mental functions, cerebellar functions pupils and sensory functions were within normal limits. Neurological examination suggested of tenderness in T10 to L5 vertebra. Power was 0/5 in bilateral lower limbs and 5/5 in bilateral upper limbs. Bilateral Babinski reflex positive with deep tendon reflex present in all four limbs.

Lab parameters

Lab parameters include: haemoglobin 14.2 gm/dl, white blood cell (WBC) 7.4, platelets 219000, total protein 5.7 gm%+++, albumin 3.4, billirubin 0.6, alkaline phosphatase (ALP) 98, aspartate transaminase (AST) 23, alanine transaminase (ALT) 24, urea 36, creatinine 1.3, potassium 4.0, sodium 136, erythrocyte sedimentation rate (ESR) 55 mm. Serum for band forms and urine Bence jones protein was negative, PSA 1.28 ng/ml.

Imaging studies

X-ray thoracolumbar spine and chest X-ray were normal. Computed tomography (CT) brain and thoracolumbar spine suggestive of no significant abnormality. Contrast enhanced computed tomography (CECT) abdomen pelvis suggested of multiple unruptured liver hydatid cyst with serpiginous crumpled membrane class CE3a (Figure 1). Also a cystic lesion in tail of pancreas is noted mostly a hydatid cyst (Figure 2).

Figure 1: Liver hydatid.

Figure 2: Hydatid of tail of pancreas.

HRCT thorax suggestive of uncomplicated lung hydatid cyst in anterior segment of bilateral upper lobe. Magnetic resonance imaging (MRI) thoracolumbar spine with WSS suggestive of compressive myelopathy due to infective lesion of spinal vertebral hydatid with epidural extension at the level of T10 -T11 (lesion is causing significant spinal canal compromise with intramedullary signal intensity present) (Figures 3). Patient was started on medical treatment with Tb albendazole 400 mg BD and was transferred to super speciality hospital for surgical management. Patient underwent T10-T12 Laminectomy with excision of space occupying lesion with spinal decompression surgery. Cystic lesion was sent for histopathological examination (Figures 4-6) and diagnosis of hydatid disease was confirmed. Patient was continued on medical management after surgery and was followed up.

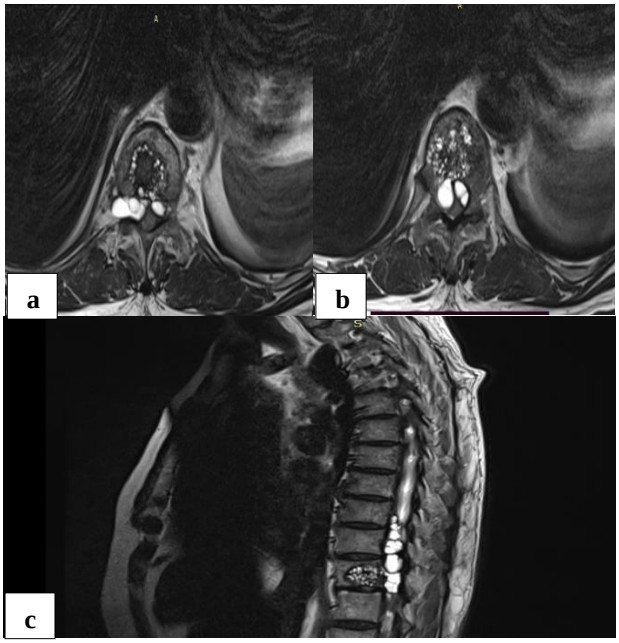

Figure 3: MRI images showing spinal hydatid cyst in thoracis vertebra.

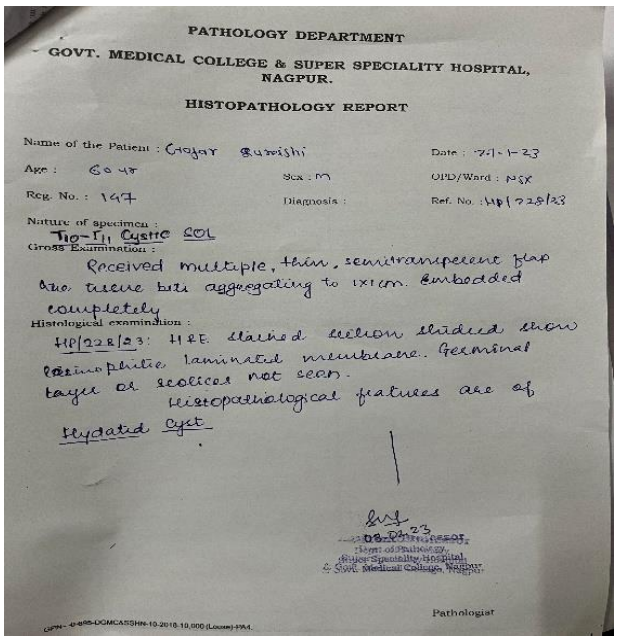
PATHOLOGY DEPARTMENT
GOVT. MEDICAL COLLEGE & SUPER SPECIALITY HOSPITAL, NAGPUR.
HISTOPATHOLOGY REPORT
Name of the Patient : Ghojar Qureishi
Date : 7-1-23
Age : 60 48
Sex : M
OPD/Ward : NSX
Reg. No. : 197
Diagnosis :
Ref. No. : HP/228/23
Nature of specimen : T10-T11 Cystic SOL
Gross Examination : Received multiple, thin, semitransparent flap like tissue bits aggregating to 1x1cm. Embedded completely
Histological examination : HP/228/23: H&E stained section studied show eosinophilic laminated membrane. Germinal layer of scolices not seen.
Histopathological features are of Hydatid cyst.
Pathologist

Figure 4: Histopathological report of spinal hydatid cyst.

Figure 5: Section from cyst wall showing eosinophillic laminated membrane HE100x.

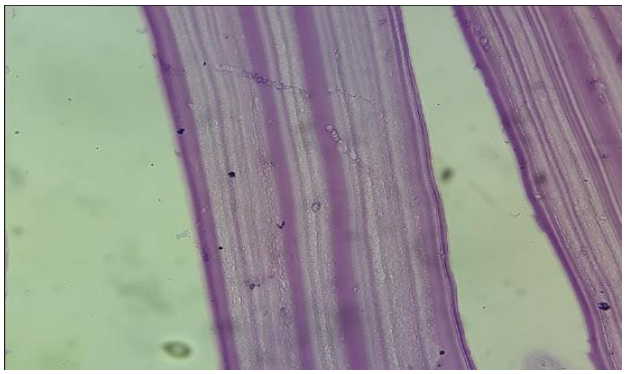

Figure 6: High power view showing laminated eosinophilic membrane HE400x.

DISCUSSION

Hydatid disease is a common problem all over the world. Bone Echinococcosis is underrated due to lack of awareness, and a very high incidence of misdiagnosis.[3] Humans are intermediate hosts, Dogs are definite hosts. Infection is acquired through dogs faeces infected with eggs of the parasite. Bone Echinococcosis incidence is extremely low because the liver and lung trap most of the larvae and skeletal hydatids results from the deposition of the larval forms filtered out of liver/lungs into the bone tissue.[4] Spinal hydatid disease spreads through hematogenous metastasis, due to the rich blood circulation and the slowly flowing blood of the spine area.[5] Therefore, spinal involvement is more common in bone hydatid disease, accounting for about 50%. Spinal hydatid disease can occur in any segment of the spine, thoracic being most common followed by lumbar region, rarely involving pelvis and sacrum.[6]

In bone, hydatid growth continues in an outward direction in cancellous bone, with destruction by pressure necrosis and resorption leading to exogenous cyst formation.[7] Invasive intradural and extradural growth of the cysts causes direct compression.[8] Mechanical destruction and neurological damage is caused by direct compression of the cyst.

In many cases of thoracic spinal hydatids, the initial symptoms are paraplegia or paraparesis. According to the current literature, the posterior decompression recognized approach for most spinal hydatid's cases.[10] Laminectomy is most performed surgery for spinal hydatid cysts. Adjuvant anthelmintic chemotherapy is essential to control the disease locally, avoid systemic spread, and prevent recurrence. Preoperative chemotherapy with albendazole may prevent anaphylactic shock if an active cyst ruptures, reduce the risk of cystic recurrence, and facilitate the operation by reducing the intra-cystic pressure.[9] The current treatment standard for hydatid disease is total surgical removal of the cysts and spinal cord decompression before irreversible damage occurs, followed by medical therapy for about 3–9 months.

CONCLUSION

Hydatid disease of the spine is a very rare disease, causing paraplegia is even rarer. Magnetic resonance imaging scan is the diagnostic tool of choice. Surgical evacuation is the standard management strategy. Outcome is variable and unexpected.

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