Case Report / Olgu Sunusu

İntrakranial Hidatik Hastalık: Nadir Bir Hastalığın Görüntüleme Bulguları

Intracranial Hydatid Disease: Imaging Findings Of A Rare Disease

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ÖZET

Hidatik hastalık Echinococcos granulosus parazitinin larval dönemi sebebiyle ortaya çıkmaktadır. Başlıca Kuzey Afrika ve Akdeniz ülkelerinde endemik olarak görülmektedir. Hastalık genellikle karaciğer ve akciğerlerde görülmekte olup diğer organ tutulumları da görülebilir. Bu nadir vaka ile 9 yaşında bir kız çocuğunda saptanan intrakaranial kist hidatik olgusu Manyetik Rezonans Görüntüleme bulguları ile sunulmaktadır.

Anahtar Kelimeler: Hidatik hastalık, intrakranial, kist, MRG

ABSTRACT

Hydatid disease is caused by the larval stage of the parasite Echinococcus granulosus. It is mainly endemic in North African and Mediterranean countries. The disease usually manifests in liver and lungs although involvement of other organs are also seen. In this case intracranial hydatid disease in a 9-year-old female patient is presented with MRI findings.

Key Words: Hydatid disease, intracranial, cyst, MRI

INTRODUCTION

Hydatid disease is caused by the larval stage of the parasite Echinococcus granulosus. It is mainly endemic in North African and Mediterranean countries. Turkey is one of the countries where the disease is endemic with an annual incidence of 4.9 cases per 100.000 inhabitans (1).The disease usually manifests in liver and lungs although involvement of other organs are also seen.

Involvement of the central nervous system is very rare, occurring in about 2 % of the cases (2). Although primary intracranial hydatid disease is rarely seen, it should be kept in mind in the differential diagnosis in places where the disease is endemic. In this case intracranial hydatid disease in a 9 year old female patient is presented with MRI findings.

CASE REPORT

A nine year-old female patient was admitted to the hospital with severe headache and nausea lasting for a week. Cranial MRI evaluation of the patient revealed a cystic mass measuring 88x84x83 mm in the right temporoparietal lobe which compressed the body and the anterior horn of the right lateral ventricule and caused a midline shift of 18 mm to the left. The lesion was hypointense on T1 weighted and FLAIR sequences, hyperintense on T2 weighted sequences and did not show contrast enhancement on postcontrast T1 weighted sequences (Figure 1). Due to the known history of hydatid cyst in the family, the primary diagnostic hypothesis was intracranial hydatid disease. Patient underwent abdominal ultrasonography which did not show any cystic or solid lesions in the abdomen. Chest X-ray was normal.

The cyst was totally excised intraoperatively. Pathology confirmed Hydatid disease. The patient did not have any symptoms or a residual or recurrent lesion in the follow-up MRI 1 year later.

DISCUSSION

The incidence of hydatid disease changes between 1-150/100.000 (3). Although the disease is mostly manifested in liver (75%) and lungs (15%) other organs can also be involved (10%) (4). Involvement of the central nervous system is very rare, particularly seen in the perfusion zone of middle cerebral artery, typically as solitary spherical uniloculated cysts in the parietal lobe (5,6,7). Lesions generally present with focal neurologic deficit and increased intracranial pressure or hydrocephalus due to the blockage in the drainage of the cerebrospinal fluid when they reach large sizes.

In primary form of intracranial hydatid disease involvement of other organs are not seen. Primary form is hypothesized to occur due to direct larval infestation from the damaged blood brain barrier after trauma or surgery. Daughter vesicules or scolex can cause recurrence if the cysts rupture. On the other hand multiple secondary cysts which form after the traumatic, operative or spontaneous rupture of the intracranial cysts are infertile with a low potential for recurrence.

Intracranial hydatid cysts are well delineated spheric lesions which are isodense to cerebrospinal fluid on CT. On MRI they are isointense to cerebrospinal fluid and sometimes they may have a hypointense rim. Typically no contrast enhancement is seen and rarely peripheral calcifications may be detected. The presence of pericystic oedema and contrast enhancement show that the cyst is not simple but complicated or infected (8).

In the diagnostic work up epidemiological, clinical, laboratory and imaging tests are done. Since the anticore response is low or none in the cerebral involvement of hydatid disease, especially in the calcified cysts, serologic identification has limitations which makes the imaging studies more valuable (9).

In the differential diagnosis of the intracranial cystic lesions abscess, arachnoid cyst, porencephalic cyst, epidermal cyst and neoplastic lesions like cystic glioma should be considered. Abscesses and cystic gliomas usually demonstrate peripheral oedema, mural nodule and peripheral rim showing contrast enhancement. The other cystic lesions are usually not totally surrounded by brain parenchyme and generally are spheric shaped on contrary to the hydatid cysts (10). Preoperative correct diagnosis is valuable in the prevention of potential intraoperative complications due to cyst rupture.

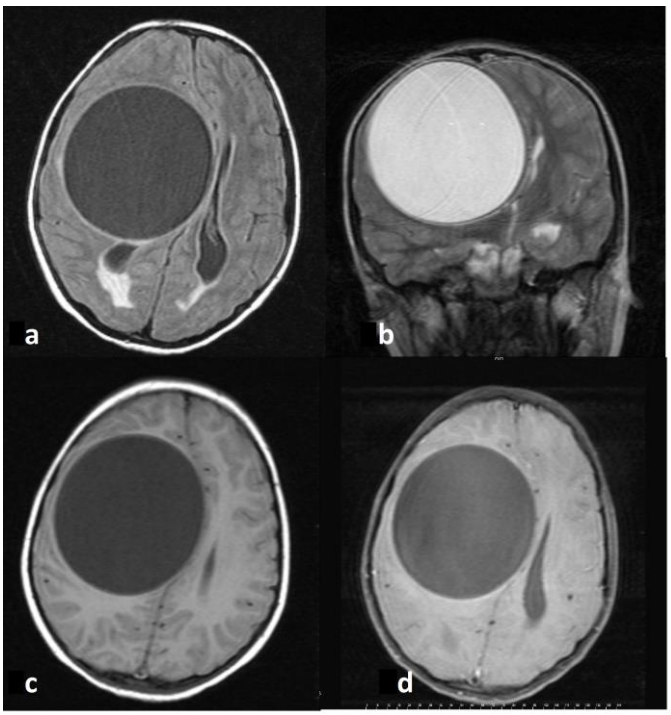

Figure 1. In the MRI evaluation a cystic mass of 88x84x83 mm was detected which compressed the body and the anterior horn of the lateral ventricule and caused a midline shift of 18 mm to the left. The lesion was hypointense on axial FLAIR (a), hyperintense on coronal T2 weighted (b), hypointense on axial T1 weighted (c) sequences and did not show contrast enhancement on postcontrast T1 weighted (d) sequences.

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