Editorial

Hydatid disease of the spine

In humans, hydatid disease of the spine is a rare form of parasitic infection, causing focal neurological signs, commonly observed in sheep-raising areas of the world, and it affects the vertebral column in 0.2–1% of all patients of which spine is involved in approximately 45% of cases[1-4] even in rural areas where echinococcosis is endemic and[5,6] dead end of parasite of hydatid in its life cycle is human.[1-6] Due to the rarity of its presentation, unless the clinician includes spinal hydatid disease as part of the differential list for paralysis and considers performing neuroimaging, this potentially curable disease will be missed.[7-10] Vertebral hydatidosis commonly involves the thoracic vertebrae and the cervical, lumbar vertebrae and sacrum are rare sites to be involved.[11-15] However, it remains controversial as to which region is more commonly involved.[16]

Spinal hydatid disease manifests itself through symptoms and signs related to compression of the cysts on other structures; no specific pathognomonic symptoms or signs exist.[17,18] Generally, the disease presents with radiculopathy, myelopathy and/or local pain owing to bony destructive lesions, pathological fracture and consequent cord compression.[1,19] In some patients, the spinal hydatid cysts can grow to enormous size and clinically remain asymptomatic for years. [1,19,20] Hydatid cysts of the sacrum are no exception and are characterized by chronicity without any clinical manifestation and usually misdiagnosed in the early stage, resulting in significant loss of bone and destruction of surrounding tissue.[21] A missed diagnosis of hydatid cyst could be devastating and hydatid cyst should be kept as a differential diagnosis when encountered with a cystic lesion of sacrum.[14]

Radiologically, computed tomography (CT) scanning and ultrasonography is a useful combination both for achieving a correct diagnosis and for planning of appropriate treatment.[2,3,22] The differential diagnosis of cystic lesion of sacrum includes developmental cysts [epidermoid, dermoid, teratoma, neurenteric and retrorectal cystic hamartoma (tail gut cyst)], anterior sacral meningocele, necrotic sacral chordoma, schwannoma, arachnoid cyst, Tarlov's cyst and aneurysmal bone cyst.[11,23] Magnetic resonance imaging (MRI) is the preferred imaging modality in the diagnosis of hydatid cysts[17] and recent use of diffusion-weighted MRI has been shown to help differentiate complicated infected hydatidosis from abscesses, epidermoid cysts from arachnoid cysts, and benign from malignant vertebral compression fractures.[4,24] Diffusion-weighted MRI can also help differentiate between infections requiring immediate surgery and those that can be treated medically with antihelmintic treatment.[24] Interestingly, fine needle aspiration cytology enabling the diagnosis of hydatid cyst without procedure-related complication is reported in literature.

Successful treatment of spinal hydatid disease necessitates careful neuroradiological evaluation, aggressive surgical intervention and this plus adjuvant chemotherapy in some cases.[2,25,26] The initial treatment of choice is surgical excision for neural decompression, and establishing diagnosis and *en masse* excision of the spinal lesion depends largely depends on the location and the extent of the lesion.[12] The type of surgical procedures, extent of resection and decision whether to perform spinal stabilization or not to fuse depends on the site and extent of the disease and bone involvement and destruction causing spinal instability. [18,27,28] Albendazole is the preferred antihelminthic agent in the treatment of hydatid disease; presurgical use of albendazole in echinococcus infestations reduces risk of recurrence and/or facilitates surgery by reducing intracystic pressure,[16,26] but the duration of treatment is controversial.[26] Though uncommon, the suggested treatment for hydatid cyst can be aspiration and reperfusion of cyst by albendazole.[1,11,12]

Strict follow-up is critical in the management of these patients[2,3,29] and regular MRI scans should be done during the postoperative period in order to ensure that any recurrence is detected early,[29] as despite optimal and medical therapy, recurrence and thus reoperations are generally needed.[30,31] Overall recurrence rate of 30–40%[32] and a 50% recurrence rate after posterior decompression alone are reported.[32]

It has been recommended that spinal hydatidosis should be considered in the differential diagnosis of any patient who has lived or traveled within endemic areas and who presents with spine lesions and cord compression.[6] It has been well said that "although total removal of the cysts without rupture should be the surgical goal in all

cases, the best treatment remains an active nationwide prevention of the disease".[33]

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