Hydatid cyst of the sacroiliac joint: A case study in Teaching Hospital

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Abstract

Hydatid cyst affecting the sacroiliac joint is rare. Signs of sacroiliac joint involvement cause difficulties in differential diagnosis of this rare condition. To describe an unusual case of hydatid disease of the sacrum affecting the sacroiliac joint and to discuss imaging, differential diagnosis, and treatment, a 27-year-old female patient with right buttock pain and sciatica is presented.

Plain radiographs, computed tomography, and magnetic resonance imaging scans revealed destructive expansive lesion located on the right sacrum and extended through the right sacroiliac joint. Surgical curettage of the lesion was performed histopathology examination confirmed hydatid cyst and the patient was treated with albendazole.

This unusual disease should be kept in mind in the differential diagnosis of sacroiliac pain and sciatica.

Case report

A 27 year young lady presented to our department with history of right buttok pain and feature of sciatica of more than one year duration. She had swelling and tenderness over the right sacroiliac area.Wasting of buttok was evident but there was a local swelling also and the gait was antalgic. Pain was intense with visual analogue score (VAS) of 7. Patient was investigated in the other center with X-ray and CT scan and antitubercular treatment was given for 10 months empirically.

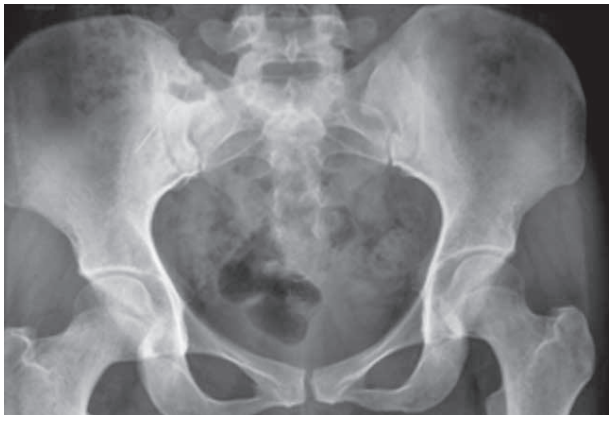

Fig.1:

X-ray (fig.1) showed lytic lesion surrounded by sclerotic margin with irregular border in the right sacrum, CT scan (Fig.2) showed destructive expansive lesion located on the right sacrum and extended through the right sacroiliac joint.

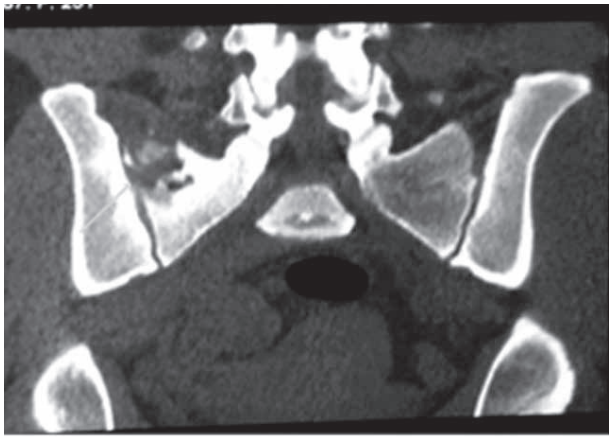

Fig.2:

As there was no response with antiubercular treatment, MRI was asked. MRI Showed involvement of the right sacrum with low signal intensity in the T1 weighted image and high signal in the T2 weighted image (Figure.3). Radiologists reported differential diagnosis as fibrous dysplasia.

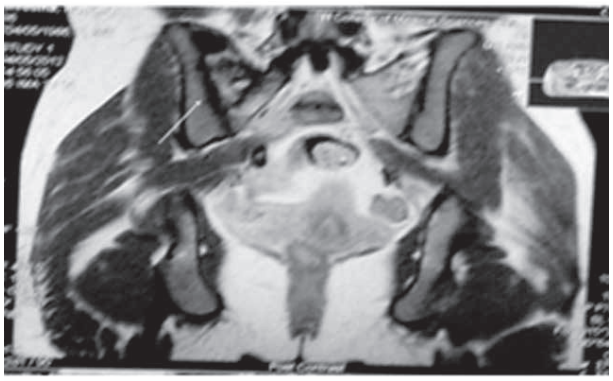

Figure: 3

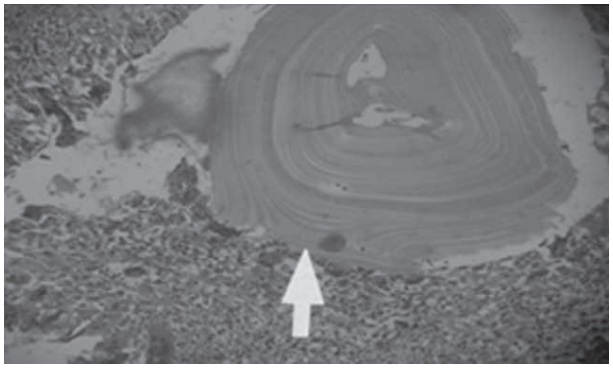

Figure 4:

With the above clinical imaging and treatment history more confusion was created so the patient was referred to our center. Other routine blood parameters and USG abdomen and pelvis were repeated and were normal. With possibility of tumors or tuberculosis, we subjected the patient for the biopsy. The material was unusual showing thin yellowish fluid with some membrane like material with small amount of granulation tissues. Material was sent for histopathology as well as culture for both tubercular and pyogenic. Histopathology report shows inflammatory granulation tissues with palisading epitheloid histiocytes and foreign body type giant cells. Inflammatory cells are composed of lymphocytes, plasma cells and foamy macrophages. Fragments of laminated membranes are also seen with which diagnosis of hydatid cyst was made (Figure 4). Other reports came out to be normal. Patient was treated with albendazole 400 mg twice daily for three months. Patient became asymptomatic after 2 months and there was no feature of recurrence till last follow up at 9 months postoperative.

Discussion

Hydatid disease, a worldwide zoonosis, is caused by the larval stage of the Echinococcus tapeworm. The commonest site of hydatid cyst is liver and lungs. Skeletal hydatidosis occurs in 0.5 to 2% cases, half of which infest the spine. The commonest site is thoracic and sacral involvement is rare[1].

In some patients, the spinal hydatid cysts can grow to enormous size and clinically remain asymptomatic for years[2,3]. 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.[4,5] 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[5].

Radiologically, computed tomography (CT) scanning and ultrasonography is a useful combination both for achieving a correct diagnosis and for planning of appropriate treatment. But ultrasonography may not be very appropriate in the region like anterior sacrum and sacro iliac joint. Magnetic resonance imaging (MRI) is the preferred imaging modality in the diagnosis of hydatid cysts. 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.[6,7,8] 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 .[9,10]Diffusion-weighted MRI can also help differentiate between infections requiring immediate surgery and those that can be treated medically with antihelmintic treatment[10]. But this modality of investigation is not available in our setting as yet. In our case it was more of a destructive lesion than the cyst making differential diagnosis as tubercular lesion or as radiologist reported as fibrous dysplasia or aneurysmal bone cyst with X-ray, CT scan and even with MRI. With rare possibility of the hydatid cyst it was not kept even as the differential diagnosis. So though the biopsy and curettage material was not typical of tuberculosis or tumor we were expecting tubercular or other infective legion which is so common in our setting. It was a surprising finding for us in the biopy and so asked the pathologist to review the slide.

Establishing diagnosis and en masse excision of the spinal lesion which is preferable depends largely on the location and the extent of the lesion. This is especially challenging in the sacrum and sacro iliac region.As we had no clue as to the diagnosis of hydatid cyst we did not think of total excion though it would have been difficult as well.

Enmesh exactions is preferred to curretage to eradicate the disease and prevent rate of recurrence which is considered common. Albendazole is the preferred antihelminthic agent in the treatment of hydatid disease. So we treated the patient with 400 mg albendazole twice daily for three months[1]. Presurgical use of albendazole in echinococcus infestations has been reported to reduce risk of recurrence and/or facilitates surgery by reducing intracystic pressure,[11,12] but the duration of treatment is controversial[12]. Interestingly, fine needle aspiration cytology enabling the diagnosis of hydatid cyst without procedure-related complication is reported in literature. Though uncommon, the suggested treatment for hydatid cyst can be aspiration and reperfusion of cyst by albendazole [6,12]. Strict follow-up is critical in the management of these patients,[13] and regular MRI scans should be done during the postoperative period in order to ensure that any recurrence is detected early as despite optimal surgical and medical therapy, recurrence and thus reoperations are generally needed. Overall recurrence rate of 30–40% and a 50% recurrence rate after posterior decompression alone are reported in spine[1]. 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"[14]. In conclusion hydatid cyst affecting the sacroiliac joint is rare[1,13,15]. Signs of sacroiliac joint involvement cause difficulties in differential diagnosis of this rare condition. Plain radiographs, computed tomography, and magnetic resonance imaging scans reveal destructive expansive lesion with varying lesion chatecter[6-10,16]. This unusual disease should be kept in mind in the differential diagnosis of sacroiliac pain and sciatica, especially in endemic areas. Combined surgical and medical management should offer better cure of the disease by lowering recurrence[1,17,18].

Conflict of interest : None declared

References

1. Patel D, Shukla D. Back bugged: A case of sacral hydatid cyst. J Neurosci Rural Pract. 2010; 1:43–5.[PMC free article] [PubMed]
2. Bhake A, Agrawal A Hydatid disease of the spine J Neurosci Rural Pract. 2010; 1(2): 61–62. doi: 10.4103/0976-3147.71715.
3. Govender TS, Aslam M, Parbhoo A, Corr P. Hydatid disease of the spine: A long-term followup after surgical treatment. Clin Orthop Relat Res. 2000; 378:143–7. [PubMed]
4. Dogra PN, Nabi G. Sacral hydatid cysts: An uncommon cause of neurogenic bladder. Urol Int.2000; 65:214–5. [PubMed]
5. Joshi N, Hernandez-Martinez A, Seijas-Vazquez R. Primary sacral hydatid cyst: A case report. Acta Orthop Belg. 2007; 73:674–7. [PubMed
6. Song X, Liu D, Wen H. Diagnostic pitfalls of spinal echinococcosis. J Spinal Disord Tech.2007; 20:180–5. [PubMed]
7. Song XH, Ding LW, Wen H. Bone hydatid disease. Postgrad Med J. 2007;83:536–42.[PMC free article] [PubMed]
8. Berk C, Ciftci E, Erdogan A. MRI in primary intraspinal extradural hydatid disease: Case report. Neuroradiology. 1998; 40:390–2. [PubMed]
9. Secer HI, Anik I, Celik E, Daneyemez MK, Gonul E. Spinal hydatid cyst mimicking arachnoid cyst on magnetic resonance imaging. J Spinal Cord Med. 2008;31:106–8. [PMC free article] [PubMed]
10. Doganay S, Kantarci M. Role of conventional and diffusion-weighted magnetic resonance imaging of spinal treatment protocol for hydatid disease. J Spinal Cord Med. 2009; 32:574–7. [PMC free article][PubMed
11. Garcia-Vicuna R, Carvajal I, Ortiz-Garcia A, Lopez-Robledillo JC, Laffon A, Sabando P. Primary solitary Echinococcosis in cervical spine: Postsurgical successful outcome after long-term albendazole treatment. Spine (Phila Pa 1976) 2000; 25:520–3. [PubMed]
12. Işlekel S, Erşahin Y, Zileli M, Oktar N, Oner K, Ovül I, et al. Spinal hydatid disease. Spinal Cord.1998; 36:166–70. [PubMed]
13. Turgut M. Hydatid disease of the spine: A survey study from Turkey. Infection. 1997; 25:221–6.[PubMed]
14. Eckert J, et al., editors. World health Organization. WHO/OIE Manual on echinococcosis in Humans and Animals: A Public Health Problem of Global Concern. 2001.
15. Yilmaz N, Ozgocmen S, Kocakoc E, Kiris A. Primary hydatid disease of sacrum affecting the sacroiliac joint: A case report. Spine (Phila Pa 1976) 2004; 29:E88–90.
16. Singh P, Shankar S, Sharma BS, Shyam NK, Nair A,Korula A. MRI in sacral echinococcosis. J Comput AssistTomogr 2000 ; 24 : 176-177
17. Fiennes AG, Thomas DG. Combined medical and surgical treatment of spinal hydatid disease: A case report. J Neurol Neurosurg Psychiatry. 1982; 45: 927–30. [PMC free article] [PubMed]
18. Ozdemir HM, Ogun TC, Tasbas B. A lasting solution is hard to achieve in primary hydatid disease of the spine: long-term results and an overview. Spine 2004; 29 : 932-937