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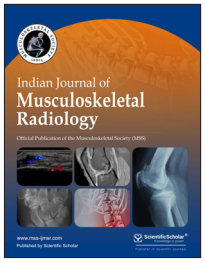

Case Report

Ischiogluteal bursitis: A not to be forgotten differential of gluteal lesions with fluid-fluid levels

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ABSTRACT

Ischiogluteal bursitis, also called "weaver's bottom," arises due to chronic irritation of the soft tissues overlying the ischial tuberosity. Here, we report a case, in which multiple fluid-fluid levels were seen in a patient with bilateral ischiogluteal bursitis. The previous studies have suggested that ischiogluteal bursitis presents as a cystic lesion at its characteristic location. However, the presence of multiple fluid-fluid levels within the inflamed bursa may confuse young radiologists. To make things worse, a list of differentials for soft-tissue lesions with fluid-fluid levels often omits this common yet often overlooked condition.

Keywords: Ischiogluteal, Bursitis, Fluid-fluid levels

INTRODUCTION

Ischiogluteal bursitis is a common condition that presents with an array of symptoms, including pain and swelling in the buttock or radiating pain down the thighs.[1] Clinically, the symptoms mimic those from intervertebral discs, hip joint, pelvic bone, or perirectal tissues. Although ischiogluteal bursitis has long been known to exist, there are few reports of it in the recent literature.[2] This report describes a patient with bilateral ischiogluteal bursitis, in which imaging showed multiple fluid-fluid levels and discusses the tips to diagnose the condition accurately.

CASE REPORT

A 55-year-old female presented with palpable swellings in the bilateral gluteal region. She stated that the swellings were present for the past 2 years and caused debilitating pain radiating down her thighs. There was a slight increase in the size of the lesions clinically over the past 2 years and there was no subsidence of pain despite receiving various pain-relieving medical treatments. She was a homemaker by occupation and spent most of her time engrossed in household work such as cooking and cleaning. On examination, there was hyperpigmentation of skin overlying the swelling.

On X-rays, the bony origin of the swelling was ruled out [Figure 1]. Ultrasound showed well-defined bilateral cysts with multiple thick septations and moving internal content. On color Doppler evaluation, increased vascularity was seen along the cyst's walls. No internal vascularity was seen [Figure 2]. Computed tomography (CT) showed the lesions to be of fluid attenuation. Mild cortical irregularity of ischial tuberosities was seen on CT [Figure 3]. Magnetic resonance

Figure 1: X-ray-pelvis. Soft-tissue opacity is seen beneath bilateral ischial tuberosities. The bones are normal.

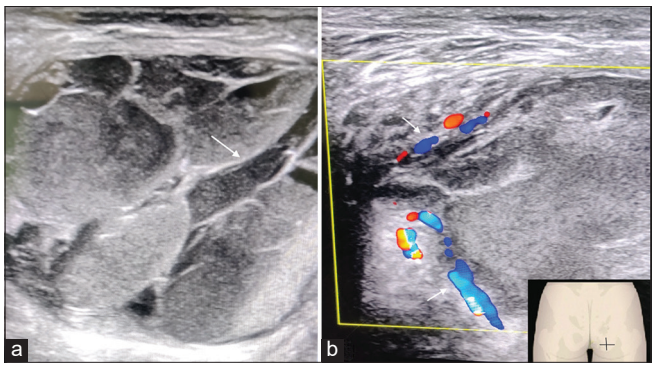

Figure 2: (a) Encapsulated lesion on ultrasound. Note thick internal septations (arrows). (b) Vascularity seen in the walls on color Doppler evaluation.

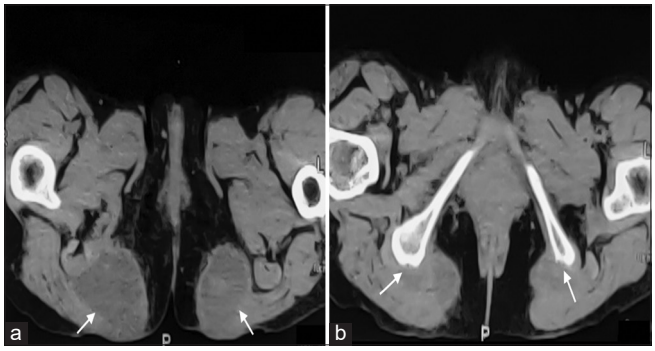

Figure 3: Computed tomography pelvis, axial, and non-contrast study (a) bilateral fluid attenuation lesions in ischiogluteal plane. (b) Mild cortical irregularity of bilateral ischial tuberosities (arrows).

imaging (MRI) showed bilateral T1 and T2 hyperintense cystic lesions between the ischial tuberosities and the gluteus maximus muscle and medial to the origin of hamstrings. Multiple fluid-fluid levels were evident. No soft-tissue component was seen. On post-contrast, the lesions showed enhancing walls with no central enhancement [Figure 4]. The lesions were compressing the sciatic nerve on both sides. Bilateral ischial origins of hamstring tendons did not show any gross abnormality. A diagnosis of bilateral ischiogluteal bursitis was made.

Due to the non-responsiveness of the lesions to various medical treatments and a slight clinical increase in the size of the lesions over the past 2 years, they were subjected to surgical excision. Histopathology confirmed it as ischiogluteal bursitis.

DISCUSSION

Ischiogluteal bursitis is one of the common causes of buttock pain or pain radiating down the thighs; yet, it is often overlooked. Clinically, the disease mimics prolapsed lumbar intervertebral disks, hip arthritis, perirectal mass, or mass originating from the pelvic bone.[2] Imaging helps to clinch the diagnosis.

Around 20 different bursa have been described around the pelvis.[3] The ischiogluteal bursa is an adventitial bursa located between the gluteus maximus muscle and the ischial tuberosity and medial to the ischial origin of hamstring tendons.[2] The other bursae in this location are ischial bursa which is an adventitial bursa between the ischial tuberosity and the hamstring.[4] The ischiofemoral bursa develops in the quadratus femoris space and between the quadratus femoris and ischium. They are commonly seen in the setting of ischiofemoral impingement. The obturator externus bursa lies between the obturator externus muscle and the ischiofemoral capsular ligaments.

The ischiogluteal bursa often gets inflamed due to repetitive activities which involve prolonged sitting such as weaving and tractor-driving. Athletes may also suffer from this condition due to falls on the buttocks resulting in shearing injury. Sports that involve prolonged sitting such as canoeing, horseback riding, and wheelchair racing for paraplegics have increased association with this condition.[5] In addition, since the ischial tuberosity is a pressure point, bearing the weight of the body, people with debilitating conditions such as cancers and paraplegics may suffer from this condition more commonly.[3]

The diagnosis of ischiogluteal bursitis is usually made clinically. However, imaging may be requested in doubtful cases. Ultrasound and MRI are excellent in depicting the lesions. Routine MRI sequences such as T1-weighted axial and T2-weighted axial images are sufficient to demonstrate the lesions. Post-contrast T1-weighted sequences may be done to rule out any solid mass in doubtful cases. Magnetic resonance neurography using T1-weighted non-fat-suppressed coronal and volumetric T2-weighted fat-suppressed coronal sequences may be done to identify the

relationship of the sciatic nerve with the bursa. There is no specific imaging feature to diagnose the condition. However, the cystic nature of the lesion with its characteristic location in the ischiogluteal plane, deep to the gluteal muscles and medial to semitendinosus muscle, aids in diagnosis.[6] The occurrence of blood-fluid levels within the inflamed bursa has been reported earlier. The most obvious reason for such appearance has been postulated to be the repetitive shearing forces on the ischial tuberosity.

Most of the previous literature on soft-tissue lesions with fluid-fluid levels has ignored this common pathology. The list of often cited differentials of soft-tissue lesions with fluid-fluid levels includes abscess, hematoma, hemangioma, periosteal aneurysmal bone cysts, extraosseous osteosarcoma, or Ewing's sarcoma, epidermoid cyst, hydatid cyst, ganglion, and other soft-tissue sarcomas. The presence of blood-fluid levels is not characteristic of ischiogluteal bursitis and can be seen in the above-mentioned conditions also.[7] It is important to note that most of the above conditions are treated surgically, whereas ischiogluteal bursitis usually responds well to conservative treatment. Table 1 summarizes the radiological findings of ischiogluteal bursitis in the literature.[8,9]

Sarcomas and hemangiomas can be differentiated from ischiogluteal bursitis easily as the former also shows solid enhancing components. Non-solid lesions such as abscess, hematomas, periosteal aneurysmal bone cysts, hydatid cysts, and ganglion may mimic ischiogluteal bursitis, but bilaterality of the lesions and characteristic location in the ischiogluteal plane is pathognomonic for ischiogluteal bursitis.

The various medical treatment options for ischiogluteal bursitis include cold compresses, non-steroidal anti-inflammatory drugs, and avoiding activities that lead to pressure on ischial tuberosities such as prolonged sitting. Aspiration and intra-lesional steroid-anesthetic mixture

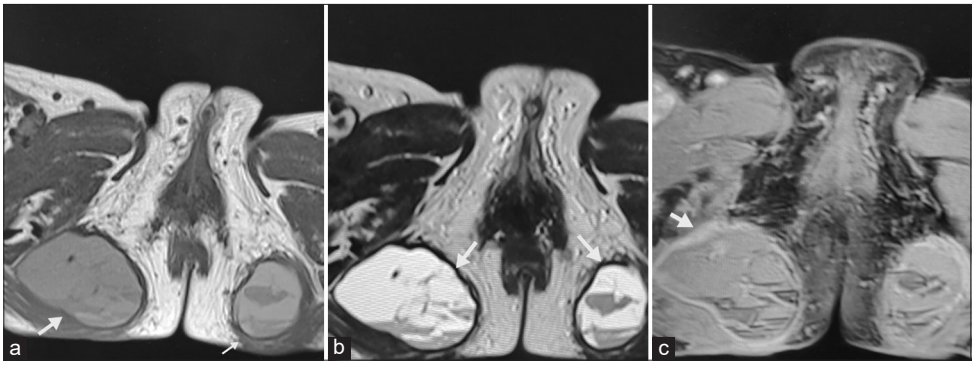

Figure 4: Magnetic resonance imaging pelvis. (a) T1-weighted axial image shows bilateral hyperintense lesions in ischiogluteal plane. (b) T2-weighted axial image shows multiple internal fluid-fluid levels within the lesions (arrows). (c) T1-weighted, post-contrast fat-suppressed image shows that the walls of the lesions enhance in the post-contrast study.

Table 1: Findings of ischiogluteal bursitis in the literature.

Authors	Number of cases	Case description	Learning points
Hitora *et al.*, 2009[8]	3	• Purely cystic lesion (*n*=1), • Complex cyst with fluid- fluid levels (*n*=1) • Diffuse enhancing lesions mimicking solid tumor (*n*=1)	Ischiogluteal bursitis can have variable appearances
Volk *et al.*, 1998[9]	1	• Suspected to be metastasis from preexisting renal cell carcinoma proved it to be chronic bursal inflammation	Ischiogluteal bursitis can mimic malignant lesions Cancer patients may have an increased tendency to develop this condition
Cho *et al.*, 2004[6]	17	• T2 hyperintense (100%) • Homogeneous in 7/17 cases and heterogeneous in 10 cases (blood-fluid levels and the septae) • On post-contrast T1 images the inner wall of the bursae was smooth (5/17 cases), and irregular (12/17 cases)	The authors stressed using location as a clinch to diagnosis Diagnosis may be difficult in ruptured bursa
Chafetz *et al.*, 1982[10]	1 (Tubercular ischiogluteal bursitis)	• Progressive bony destruction of the ischial tuberosity	Ischiogluteal bursa is one of the typical sites involved in tuberculosis

administration is also an option.[6] Surgery is usually reserved for those not responding to medical treatment or if a histological diagnosis is required.[10]

CONCLUSION

Ischiogluteal bursitis is a not-to-be-forgotten cause of buttock pain, especially in the elderly. The diagnosis must be considered in the differential of gluteal soft-tissue cystic lesions showing fluid-fluid levels. Characteristic location and bilaterality are clues to the diagnosis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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