

A case report of sciatic hernia as a cause of sciatica and lower back pain: Diagnostic dilemma for family physicians

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ABSTRACT

Degenerative changes in lumbosacral spine or disc bulges impinging on the thecal sac are the usual causes of sciatica. However peripheral compression of sciatic nerve in pelvis or lower limb presenting as sciatica is an uncommon entity. The sciatic hernia is a rare type of hernia. Due to the deep location of this pathology, the clinical examination would add little and imaging plays a pivotal role in diagnosis. We present a case of sciatica diagnosed with giant gluteal lipoma presenting as sciatic notch hernia and compressing sciatic nerve in the greater sciatic notch. Less than 100 cases are reported in the literature so far. The possibility of this rare diagnosis should be kept in mind by family physicians while evaluating patients of sciatica with no significant imaging findings in lumbosacral spine.

Keywords: Hernia, lipoma, sciatica

Introduction

Low back pain is the second most common acute self-limited problem seen in primary care, after the common cold. Primary care physicians are frequently the first to be consulted by patients when they have an episode of acute back pain. To detect rare occurrences of serious underlying pathology, a thorough examination is required. Sciatic hernia is a rare type of pelvic floor hernia with less than 100 reports published worldwide. Lipoma as content of the herniated sac is even a more unique pathology with only a few cases available in the literature.^[1] The patient may have variable presentation such

as a palpable lump in the gluteal region, intestinal obstruction, increased frequency of defecation or urination or due to pressure symptoms on nerves and vessels in pelvis causing sciatica or limb edema respectively. The clinical examination may not be helpful in making the diagnosis due to the deep location of this pathology and imaging plays a pivotal role. We present the case of a 45-year-old female presenting with complaints of sciatica due to a giant lipoma in the gluteal region extending into the sciatic notch. Incidental diagnosis of sciatic notch lipoma was made while evaluating the patient with magnetic resonance imaging (MRI) of the lumbosacral spine to look for the cause of sciatica.

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Case Report

A 45-year-old female patient presented with pain in her lower back and radiating to left buttock, posterior part of the left thigh,

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and left leg. The patient also complained of mild paresthesia in this region. The patient had these complaints for 1 year. No significant medical or surgical history or history of trauma was present. On examination, the patient was overweight with a body mass index (BMI) of 28. On neurological examination mild paraesthesias were present in L4 to S3 dermatome. However no motor weakness was present. The patient was referred for MRI of the lumbosacral spine to evaluate the cause of this radiating pain. No evidence of any significant disc bulge or nerve root compression was seen in the lumbosacral spine. However note was made of a hyperintense lesion in the pelvis in the presacral area.

To evaluate this lesion, dedicated MRI of the pelvis was done which revealed a large well-circumscribed lobulated dumbbell-shaped mass lesion in the left gluteal region between the gluteus medius and minimus muscle extending medially into the pelvis through the greater sciatic notch [Figures 1 and 2]. In the pelvis, the mass extended into left ischio-rectal fossa. The mass had signal intensity similar to subcutaneous fat. It was hyperintense on T1 and T2 weighted images and showed suppression on short tau inversion recovery (STIR) images [Figure 3]. No evidence of any enhancement in the lesion was seen on post-contrast images. Few thin non-enhancing hypointense septae were seen in the lesion. In the pelvis, the lesion displaced lumbosacral plexus medially which was seen draped over the lesion. The sciatic nerve was compressed and pushed posteriorly by the mass lesion in the greater sciatic notch. Sciatic nerve appeared mildly thickened and hyperintense on STIR images in the region of thigh. [Figure 3] No evidence of any gluteal muscle atrophy or bony erosion was seen. The mass did not cause any mass effect on any pelvic organ. After taking written informed consent, ultrasound-guided fine needle aspiration cytology was done and confirmed the diagnosis of lipoma.

Discussion

One of the most prevalent causes for adults to visit their family physician is acute low back pain. Although the majority of patients recover rapidly with only minor therapy, a thorough examination is required to identify rare cases of serious underlying pathology.^[1-3]

Sciatic hernia is a rare type of pelvic floor hernia with less than 100 reports published worldwide. Lipoma as content of the herniated sac is even a more unique pathology with only a few cases available in the literature.^[4] The sciatic hernia is an extremely rare entity.^[5] Initially described by Papan in 1750, less than 100 cases are reported in the literature so far.^[6] Term “Reverse Sciatic Hernia” was coined for lipomatous sciatic hernias as they are believed to arise in the gluteal region and then herniate through greater sciatic foramen into the pelvis. This is contrary to non-lipomatous sciatic hernias where contents herniate from the abdominal or pelvic cavity into the gluteal region through the sciatic foramen.^[5,7,8] Sciatic hernias show increased female predilection probably due to wider pelvis and wider sciatic notch in the females.^[9,10]



Figure 1: Coronal T2WI of pelvis showing a large lobulated hyperintense mass lesion in the left gluteal region and extending medially into the pelvis through the greater sciatic notch. The mass lesion is seen indenting left sciatic nerve (arrow marked)

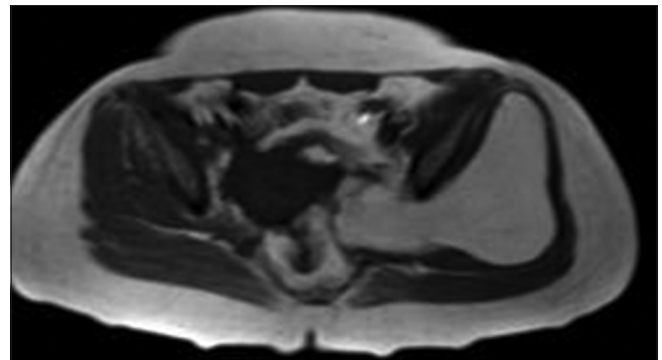


Figure 2: Axial T1WI of pelvis showing mass lesion extending from left gluteal region into pelvis through left greater sciatic notch. Left gluteal muscles are seen draped over the lesion

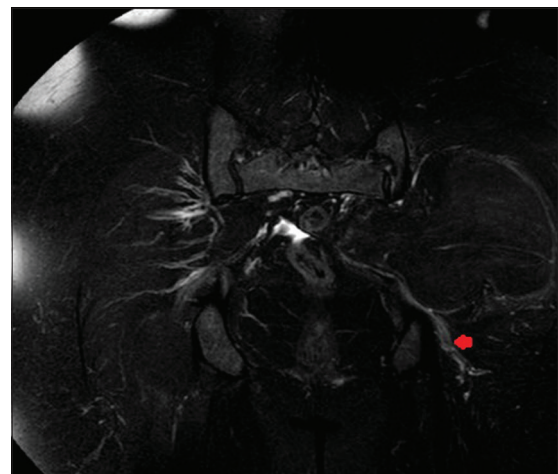


Figure 3: Coronal STIR image of pelvis showing suppression of signal of mass lesion consistent with fat. Left sciatic nerve appears thickened and hyperintense (arrow marked)

Patients may be asymptomatic or present with symptoms of pelvic or perineal pain, bowel obstruction, ureteric obstruction, or sciatica depending on the contents of the herniated sac.^[5,7,8,11] Our patient presented with complaints of sciatica secondary to

its compression in the sciatic notch. No obvious palpable lump was felt in the gluteal region probably due to the deep location of the mass and increased BMI of the patient which would have contributed to an increase in subcutaneous fat making palpation of the lesion difficult. Our patient did not have any complaints related to urination or defecation as the lesion was limited to left ischio-rectal fossa. No evidence of any compression on pelvic organs was noted on imaging.

Lipomas are mesenchymal soft tissue tumors caused by the proliferation of mature fat cells. It is important to rule out the possibility of liposarcoma whenever a lipomatous lesion is visualized. MRI helps in differentiating these two entities. Kransdorf *et al.*^[12] reported that the presence of thick septations, non-adipose tissue in the lesion comprising more than 25% of the lesion or associated soft tissue mass helps in distinguishing liposarcoma from lipoma. In our case, the lesion was predominantly fatty in attenuation and showed only a few thin non enhancing hypointense septae. Lack of significant non-adipose component or thick enhancing septae ruled out the possibility of liposarcoma.

Due to its slow growth and deep location of the mass, it remained occult and presented late due to its pressure effects on the sciatic nerve. Sciatica is mostly caused by lumbosacral degenerative disease or compression of nerve roots by the herniated disc. Peripheral entrapment of the nerve within the pelvis or lower limb is a very infrequent cause of sciatica.^[13] Similarly, our patient was being investigated with MRI of the lumbosacral spine for the cause of sciatica when incidental detection of this peripheral cause of sciatica was made. The lumbosacral plexus was pushed medially and sciatic nerve was compressed and pushed posteriorly by the lesion in the greater sciatic notch. Sciatic nerve appeared mildly thickened and hyperintense on STIR images in the region of the thigh. This case report highlights the fact that although being rare, a high index of suspicion for peripheral causes of sciatica should be kept in mind in patients with no significant findings on lumbosacral spine imaging.

Wide excision is preferred since partial removal may lead to recurrence.^[6] Symptomatic hernias need to be surgically repaired at the earliest through transabdominal or transgluteal approach to avoid any irreversible damage.^[14,15]

Conclusion

Although being rare, possibility of peripheral compression of sciatic nerve in pelvis or lower limb by a mass lesion should be kept in mind in patients of sciatica and back pain.

Key Points/Take Home Messages/Novelty

Acute low back pain is frequently nonspecific, and hence cannot be linked to a specific cause. However, depending on the patient's history and physical examination, alternative causes of acute low back pain must be evaluated. Protrusion of the peritoneal sac and its contents via the greater or lesser sciatic foramen is known

as sciatic hernia. The contents of the herniated sac can include the intestines, mesentery/omentum, ureters, ovaries, or urinary bladder. Bowel obstruction, ureteric obstruction, pelvic pain, lower back pain, or sciatica could all be symptoms of a sciatic hernia. The compression of the sciatic nerve by the herniated sac causes sciatica. This illness is difficult to diagnose clinically. As MRI gives high-resolution pictures, it can be employed in cases when the sciatic nerve is suspected of being entrapped or compressed.

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Conflicts of interest

There are no conflicts of interest.

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