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Website: www.herniasurgeryjournal.org

DOI: 10.4103/ijawhs.ijawhs_19_24

A rare case report of inverse sciatic hernia unveiling as a lipoma

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Abstract

When a swelling arising in the gluteal region herniates into the pelvic cavity through the sciatic foramen, it is referred to as inverse or reverse sciatic hernia and is a rare occurrence. We present the case of a 62-year-old female who presented with swelling in the left gluteal region with features of sciatica and abdominal pain. Magnetic resonance imaging showed 27 cm × 22 cm × 9 cm soft tissue swelling arising from the gluteal region and inversely herniating into the pelvic cavity through the sciatic foramen. We were successful in delivering the tumor through a gluteal approach. Lipomatous tumors presenting as inverse sciatic hernia are a rare event.

Keywords:

Gluteal lipoma, lipoma, lipomatous tumor, reverse sciatic hernia, sciatic hernia

Introduction

A soft tissue tumor entering the pelvis through the sciatic foramen from the gluteal region is extremely rare. As reported by Gomez-Seone and Oyasiji,[1] lipomatous tumors presenting this way have only been reported seven times, their case being the seventh one. Kerry *et al*.[2] documented the first of such cases in 1964. We describe a 27-cm-sized lipoma in the gluteal region presenting with reverse sciatic herniation.

Case Report

A 62-year-old female, with a body mass index of 26.5 kg/m^2 and a medical history marked by vitiligo, hypertension, and hypothyroidism under treatment, presented with a persistent swelling in the left gluteal region and ongoing pain along the left sciatic nerve distribution over the course of the last 4 years. she reported a recent escalation in symptom severity and the emergence of abdominal pain persisting for the last 6 months.

Physical examination revealed an area of mass in the lower aspect of the left gluteal compartment. This was non-tender and it was not associated with redness or discoloration of overlying skin.

A magnetic resonance imaging (MRI) of the pelvis, revealed a well-defined encapsulated, multilobulated homogenous lesion. It was found in the intra-muscular plane involving the left gluteus medius, maximus, and minimus [Figure 1].

The lesion was insinuated through the greater sciatic foramen into the pelvis and was associated with the intrapelvic component closely shifting the left ilacus muscle. Core needle and incisional biopsies of the lesion showed fibroadipose tissue and muscle and no malignant cells. With imaging characteristics and available biopsy a lipoma/low-grade liposarcoma was considered as the most probable diagnosis.

The multidisciplinary tumor board decided on surgery. A gluteal approach was planned. For that convenience, the patient was

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Submitted: 01-Apr-2024
Revised: 12-Apr-2024
Accepted: 19-Apr-2024
Published: 24-Jul-2024

How to cite this article: Pallikamattom MP, Murali TV, Das SR, Thomas J. A rare case report of inverse sciatic hernia unveiling as a lipoma. Int J Abdom Wall Hernia Surg 2025;8:44-7.

operated on in the left lateral position under general and epidural anesthesia. In case the pelvic component could not be delivered through the gluteal incision, we were prepared for an anterior abdominal/retroperitoneal approach. An elliptical incision, which included the previous biopsy scar was placed over the left gluteal region [Figure 2].

The swelling was soft and lobulated. The swelling was identified beneath the gluteus maximus muscle, extending a portion of it to enlarge the greater sciatic foramen to approximately 7 cm, whereas the remaining tumor was located within the pelvic region.

The sciatic nerve was identified and preserved, and the tumor was mobilized from the pelvis via the sciatic foramen. No infiltration occurred into the surrounding tissue, and the entire tumor, including the pelvic portion of the dumbbell-shaped mass, was successfully excised through the same incision without any breach in 3 h. The patient is asymptomatic at 6 months follow-up.

Histopathology revealed mature adipocytes with no necrosis and sparse mitosis. Immunohistochemistry reported an MDM2-negative specimen with a low Ki67 value (0%–1%) suggestive of a lipoma [Figure 3].

Discussion

Sciatic hernias are where abdominal contents herniate outside through the sciatic foramen, which may occasionally present as a gluteal mass, as a rare cause of sciatica, or with complications of their contents. Such contents have included the small bowel (sometimes leading to obstruction), the ureter or bladder (causing urinary tract symptoms), ovaries and fallopian tubes (causing pelvic pain syndromes), colon, omentum, and Meckel's diverticulum.[3,4] When a swelling arising in the

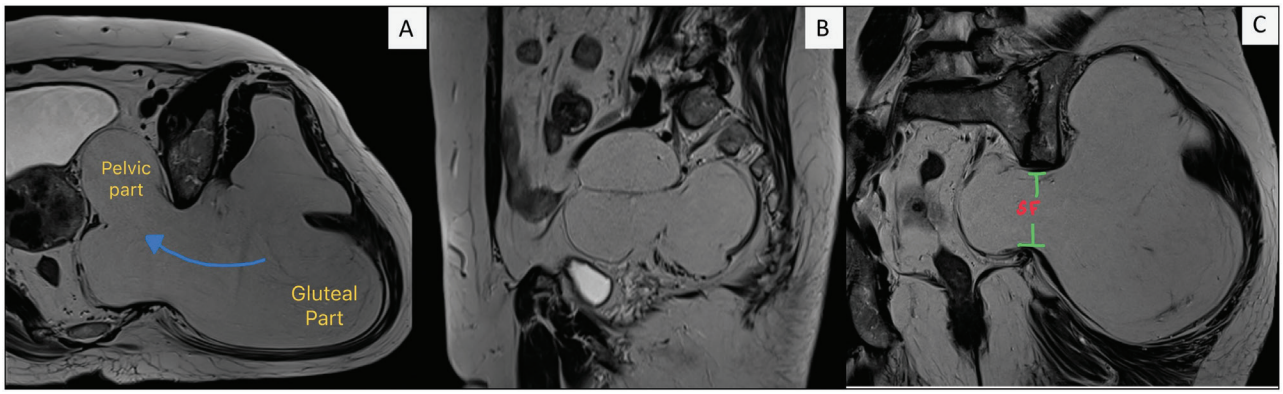

Figure 1: MRI of inverse sciatic hernia of the gluteal mass. T2-weighed images of (A) axial, (B) sagittal, and (C) coronal sections, respectively. Blue arrow showing the direction of hernia from the gluteal region to the pelvis via sciatic foramen. SF = sciatic foramen

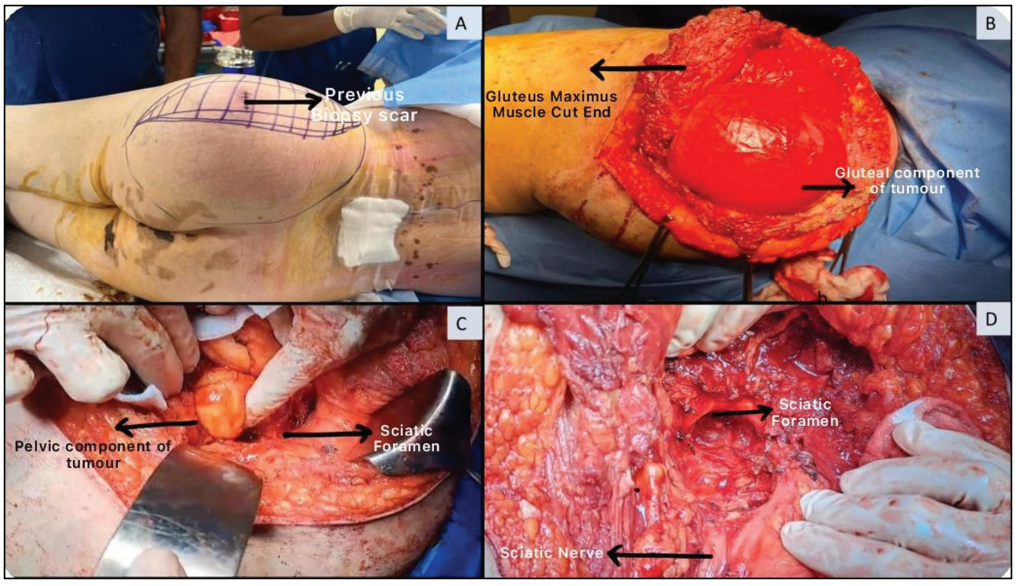

Figure 2: Intra-operative pictures of tumor resection. (A) Marking of incision with biopsy scar (arrow). (B) Tumor after cutting gluteus maximus. (C) Removal of pelvic component of tumor. (D) Post-resection bed showing greater sciatic foramen

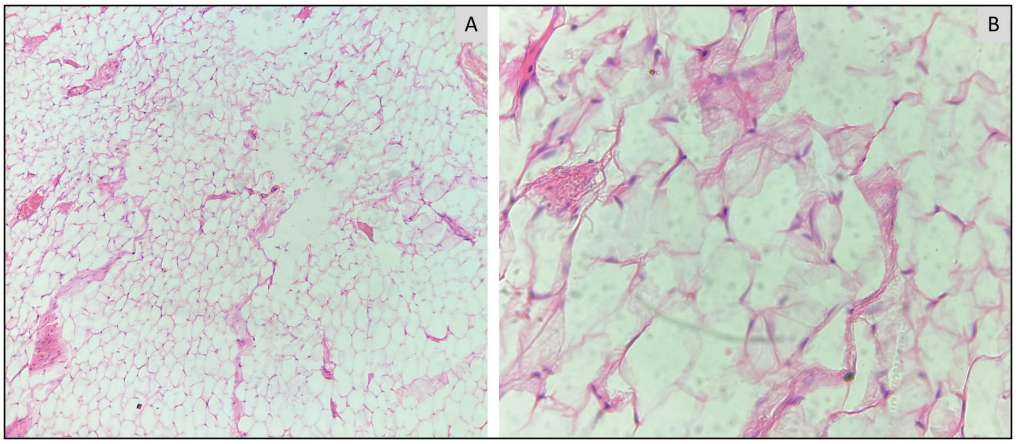

Figure 3: Histopathology sections from lesion. (A) Lobules of mature adipocytes separated by fibrous septae. (B) Higher magnification (40×)—Tumor cells with abundant vaccinated cytoplasm and peripherally located nuclei without any atypia

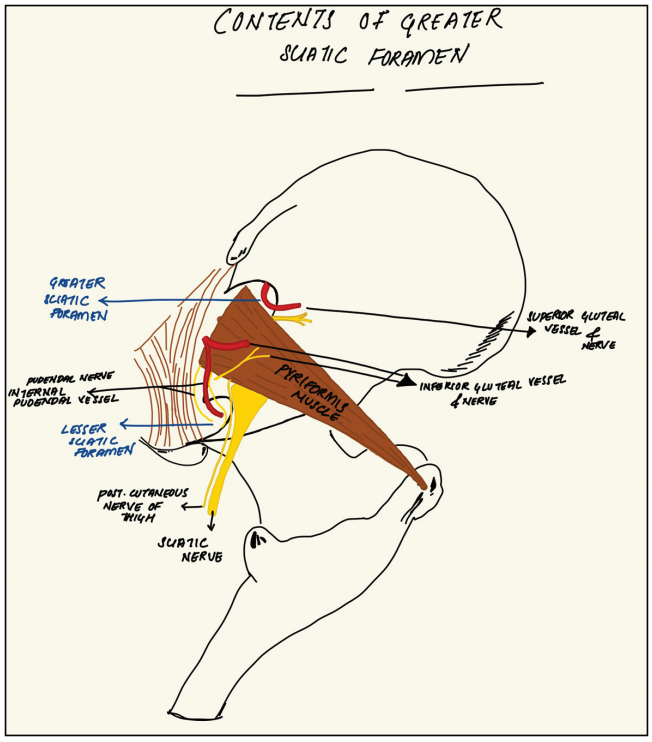

Figure 4: Contents of the greater sciatic foramen

gluteal region herniates into the pelvic cavity through the sciatic foramen, is referred to as inverse or reverse sciatic hernia and is a rare occurrence. Being the rarest of occurrences, lipomatous tumors herniating through the sciatic foramen have only been documented six times in the literature.[1,3,5] The incidence is found to be higher in females than in males.[6-8] One of the anticipated reasons for this deviation toward the female sex can be explained by their larger pelvis and sciatic foramen[6,7] [Figure 4].

Lipomas are mesenchymal soft tissue tumors that arise from the proliferation of mature fat cells. Their slow growth allows them to proliferate and often go undetected, although they may occasionally manifest with symptoms. Being a universal tumor, the presentation of a lipoma in this particular site is considered rare. This was the case here as well, where the patient initially had sciatic symptoms followed by abdominal symptoms, which led to imaging and diagnosis. MRI imaging of the lesion helps to an extent in differentiating between liposarcoma and lipoma. According to Kransdorf *et al.*[9] when thick septations and non-adipose tissue make up more than 25% of a lesion, it can serve as a probable distinguishing factor between liposarcoma and lipoma. In our case, the pathology report confirmed the mass of size 27 cm × 22 cm × 9 cm as a lipomatous tumor composed of lobules of mature adipocytes of fairly uniform size with intervening fibrous septae with no areas of necrosis.

Author contributions

The fourth author performed the surgery, whereas the first and second authors assisted with the surgery. The third author did the pathology result evaluation. The first and second author prepared the manuscript. The third and fourth authors did a critical evaluation and revision of the manuscript. All authors were involved in the checking and correction of the manuscript. The second author approved the final version of the manuscript and is considered the guarantor for the case report.

Ethical policy and institutional review board statement

The study was performed in accordance with the Declaration of Helsinki.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Data availability statement

Data sharing not applicable to this article as no datasets were generated and/or analyzed during the current study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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