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A Rare Case of Pedunculated Fibrolipoma in the Gluteal Region: Diagnostic and Surgical Journey

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ABSTRACT

Pedunculated fibrolipomas are an uncommon variant of benign lipomatous tumors characterized by a mixture of adipose and fibrous tissue. We report the case of a 39-year-old male who presented with an asymptomatic, soft, and mobile mass in the left infragluteal fold, which had gradually enlarged over 8 months to approximately 10 cm in length and 5 cm in diameter. Radiological assessments—including ultrasound, computed tomography, and magnetic resonance imaging—revealed a well-circumscribed, lipomatous lesion with a vascular stalk, suggestive of a benign process. The lesion was successfully excised via a meticulous surgical procedure, and histopathological analysis confirmed the diagnosis of fibrolipoma. This case highlights the significance of a comprehensive diagnostic approach combining clinical evaluation and multimodal imaging to distinguish rare fibrolipomas from other soft-tissue masses, thereby guiding effective surgical management.

Keywords: *Fibrolipoma, Pedunculated, Benign tumor, Surgical resection*

1. INTRODUCTION

Fibrolipomas are a rare histological subtype of lipomas, characterized by the presence of mature adipocytes interspersed with dense fibrous connective tissue. While lipomas represent the most common benign mesenchymal tumors, fibrolipomas are less frequent and even rarer when pedunculated [1, 2, 3]. This benign tumor typically presents as a well-encapsulated mass that is slow-growing and asymptomatic, although larger lesions may cause discomfort, functional limitations, or compressive symptoms, depending on their size and location. The occurrence of pedunculated fibrolipomas, especially in less common sites like the buttocks or thighs, is exceedingly rare [3]. Unlike conventional lipomas, fibrolipomas exhibit a firmer consistency due to their fibrous component. The exact etiology of fibrolipomas remains unclear, but proposed mechanisms include genetic predispositions, trauma-induced tissue changes, or metabolic disturbances [4, 5].

Fibrolipomas can arise in various anatomical locations, predominantly in subcutaneous tissues, but they have been reported in deeper layers, including the oral cavity, neck, thighs, and buttocks. While most fibrolipomas are sessile, the pedunculated variant is especially rare and often associated with regions subjected to repetitive mechanical stress or pressure [1, 4].

Here, we discuss the diagnostic workup and management of a 39-year-old male patient with a pedunculated mass near the left infragluteal fold.

2. CASE REPORT

Patient Information

A 39-year-old male presented to the outpatient clinic with a soft, mobile mass in the left infragluteal fold. He first noticed the mass 8 months ago when it was very small. Over the past 8 months, it gradually grew to its current size of approximately 10 cm in length and 5 cm in diameter. The patient reported no pain or discomfort associated with the mass and had not experienced any functional impairment. On physical examination, the mass was soft, compressible, and non-tender. There was a complete absence of touch sensation over the mass, and the patient reported no sensations when the area was palpated, suggesting a lack of sensory innervation in the mass. The overlying skin appeared intact with no signs of infection.

Clinical Findings

On physical examination, a cylindrical, soft, compressible mass measuring approximately 10 cm in length and 5 cm in diameter was noted (Fig. 1). The mass was pedunculated and connected to the skin via a small stalk, which on USG appeared to contain vascular structures. The overlying skin was intact, and no signs of infection or erythema were noted. Interestingly, there was no pain sensation or tactile response to palpation of the mass, and the patient could not feel any touch sensation over the mass.

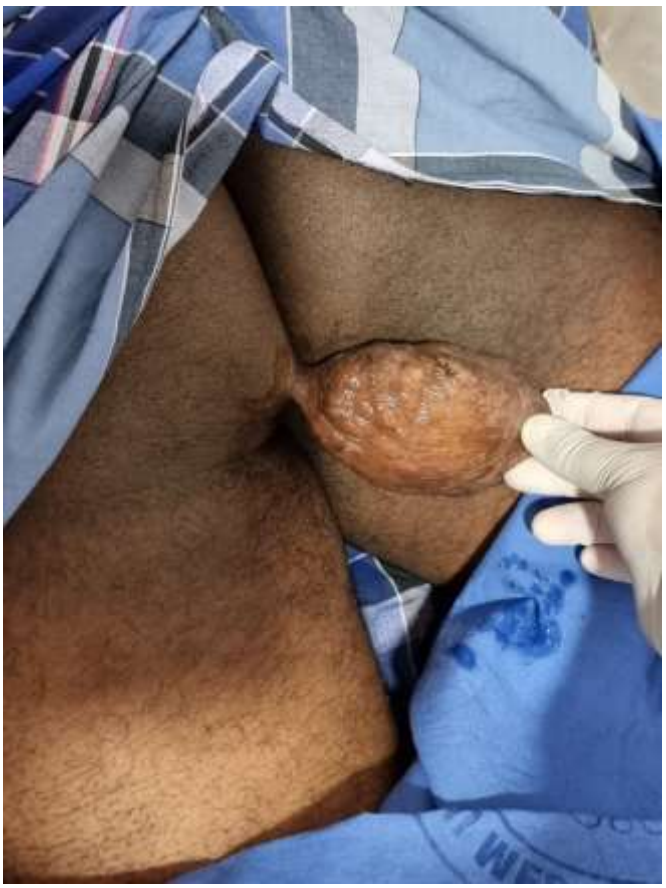


Figure 1: Clinical photograph showing a large pedunculated mass with stalk in the left infragluteal region.

Radiological Findings

The patient underwent a series of radiological investigations to evaluate the nature and extent of the mass:

- **Ultrasound:**

The ultrasound revealed a well-defined, heterogenous mass with a small highly vascular stalk. Colour Doppler imaging demonstrated significant vascularity within the mass, indicating active blood flow (Fig. 2).

- **Computed Tomography:**

The CT scan showed a soft-tissue mass with fat density, consistent with a lipomatous lesion (Fig. 3).

- **Magnetic Resonance Imaging:**

MRI confirmed the presence of a mass with high signal intensity on T1-weighted images and high signal intensity on T2-weighted images, supporting the diagnosis of a fatty mass (Fig. 4).

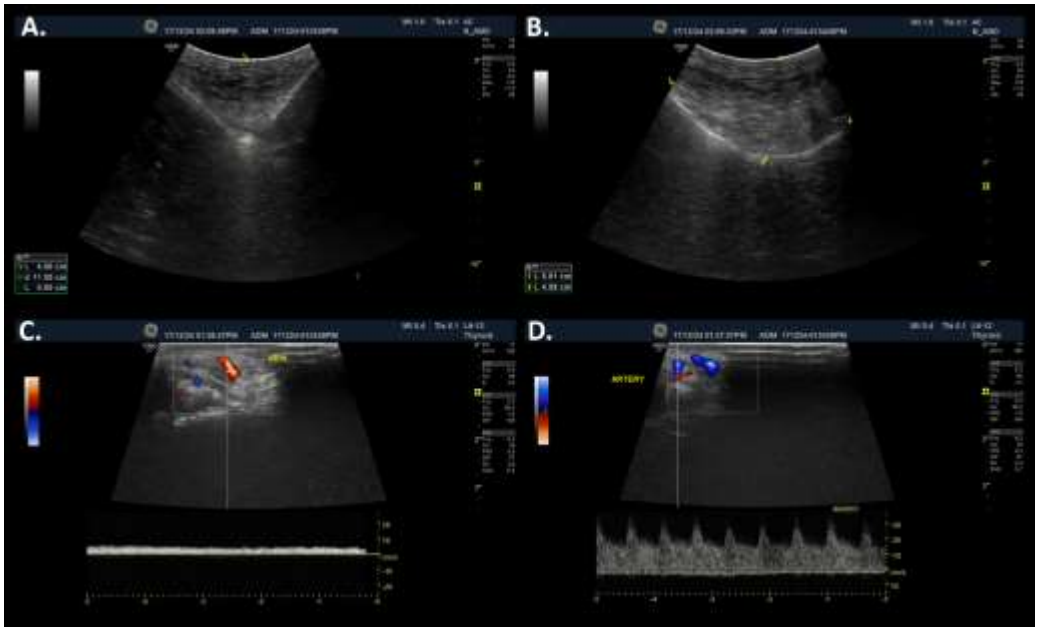
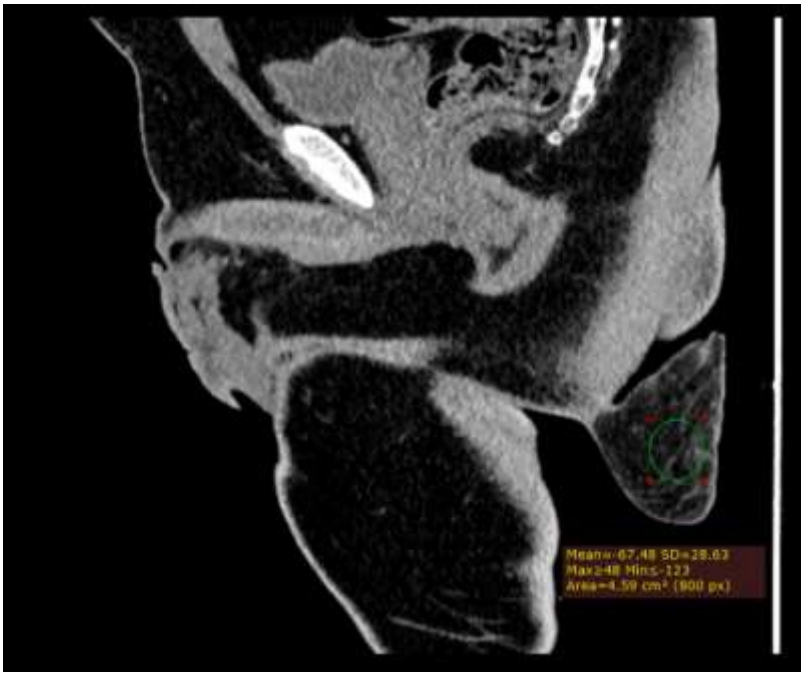


Figure 2: Ultrasound images showing a well-defined, heterogenous mass (A., B.). On Colour Doppler images, the stalk shows good arterial (D.) and venous flow (C.)



<u>Figure 3:</u> Computed tomography images, sagittal section shows a soft-tissue mass with the Hounsfield units (HU) value of - 67, consistent with fat density mass.

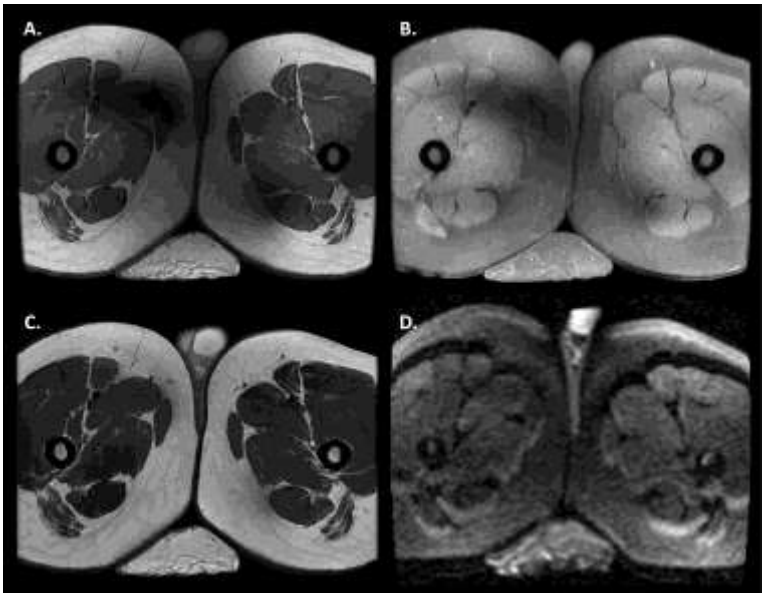


Figure 4: Magnetic resonance images, axial sections, shows a mass with high signal intensity on T1-weighted images (A.); and high signal intensity on T2-weighted images (B.), green arrows. No restricted diffusion noted in the diffusion-weighted imaging (D.)

Surgical Intervention

Based on the imaging findings, the decision was made to proceed with surgical resection of the mass. The patient was positioned in the prone position, and the area was sterilized. A careful incision was made around the base of the pedunculated mass, and the mass was meticulously dissected from the underlying tissues. Hemostasis was achieved, and the mass was excised in its entirety (Fig. 5).

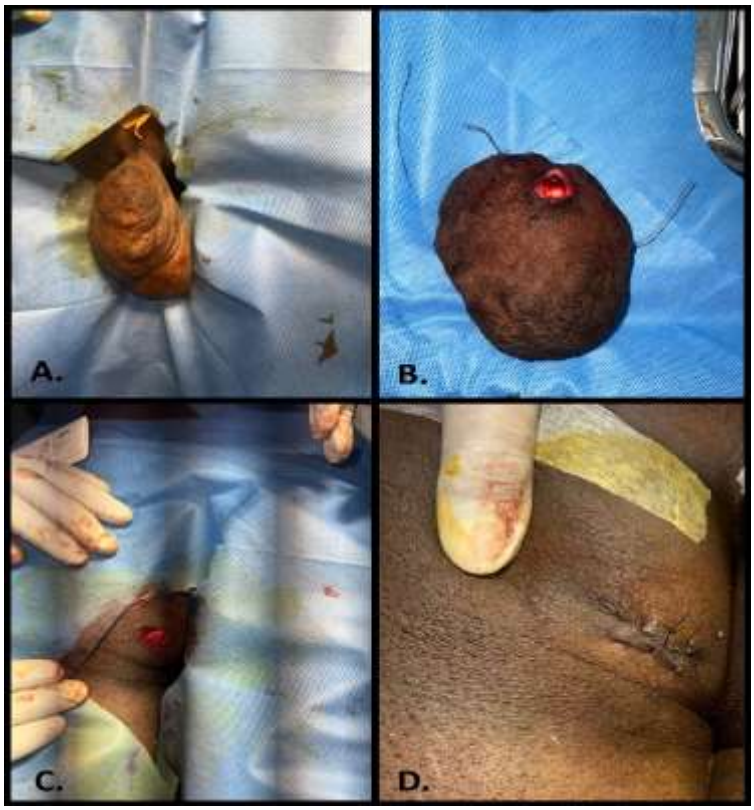


Figure 5: Presurgical image of the mass in the left infragluteal region showing cleaned and disinfected site (A.); Mass after being surgically resected at the stalk (B.) Postsurgical image of the site showing the incision and sutures (C., D.)

Histopathological Findings

The excised mass was sent for histopathological examination and fibrolipoma was confirmed as diagnosis (Fig. 6).

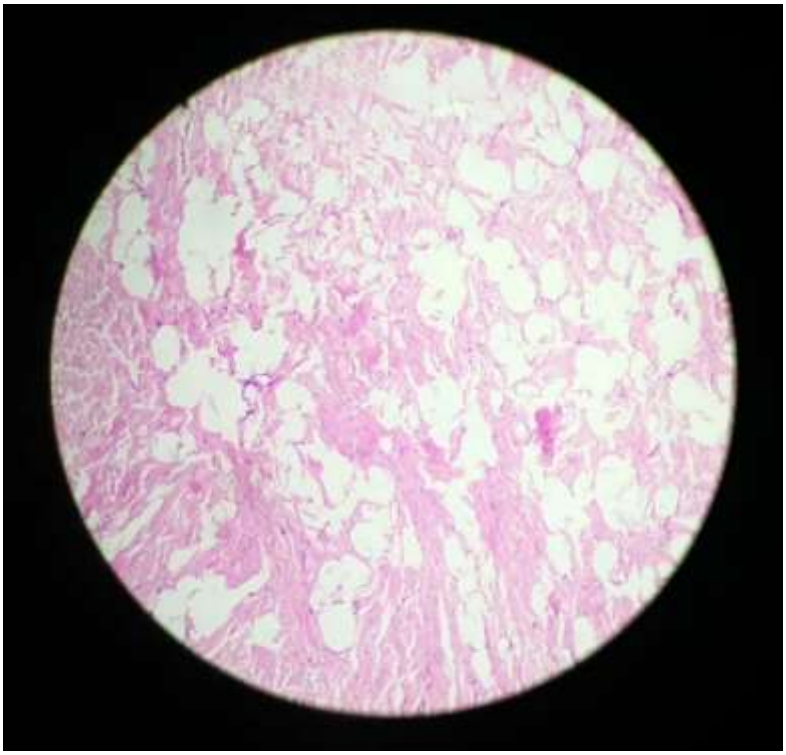


Figure 6: Pathology image, haematoxylin and eosin-stained section of excised tissue showing adipose tissue with mature adipocytes extending between collagen bundles, confirming the diagnosis of fibrolipoma.

3. DISCUSSION

Pedunculated fibrolipomas, although benign, are rare and have the potential for misinterpretation as other soft-tissue tumors, including liposarcomas. Notably, the absence of sensory innervation over the mass reinforced its benign nature, while imaging studies confirmed its lipomatous composition, well-defined borders, and the presence of a vascular pedicle.

The complete surgical excision was straightforward, and the histopathological findings confirmed the diagnosis of fibrolipoma, characterized by interspersed adipocytes and fibrous tissue. While generally asymptomatic, lesions of this size and location may eventually cause functional or cosmetic concerns, making timely surgical intervention critical. This case adds to the limited body of knowledge on pedunculated fibrolipomas and emphasizes the need for awareness of their clinical and imaging characteristics to differentiate them from other soft-tissue masses, such as liposarcomas.

4. CONCLUSION

This case shows the effective management of a rare pedunculated fibrolipoma in the gluteal region through meticulous clinical assessment and targeted imaging studies. Surgical intervention facilitated complete resection and resulted in an excellent postoperative outcome, with no complications observed. Recognizing the distinct clinical and imaging features of fibrolipomas—particularly in atypical anatomical sites—is crucial for differentiating them from other potentially malignant entities. Ongoing documentation and reporting of similar cases will further enhance our understanding of these rare tumors and contribute to the refinement of diagnostic and therapeutic strategies.

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