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A Rare Case of Fibroepithelial Pseudotumor: A case report on cost-effective Surgical Triumph in Lower Limb Reconstruction

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Abstract

Fibroepithelial pseudotumor are rare, benign soft tissue proliferations composed of fibrovascular and epithelial components. They commonly occur in the genital and breast regions, but their presence in the lower limb is exceedingly rare. These lesions can mimic neoplastic conditions and lead to functional impairment, cosmetic disfigurement, and discomfort. This case report presents a 41-year-old male with a fibroepithelial pseudotumor affecting his lower limb, progressively enlarging over 30 years and causing mobility restrictions and psychological distress. Clinical examination revealed a firm, non-tender, circumferential swelling extending from the ankle to below the knee, sparing the lateral compartment. Imaging showed subcutaneous oedema and saphenofemoral incompetence. Surgical debulking under spinal anaesthesia was performed successfully, and the postoperative course was uneventful. This case highlights the importance of thorough clinical assessment, imaging, and histopathology in distinguishing pseudotumor from neoplastic growths. Proper surgical planning and a multidisciplinary approach are crucial in achieving optimal functional and aesthetic outcomes.

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Introduction

Fibroepithelial pseudotumor are uncommon benign proliferative lesions characterized by excessive fibrous and epithelial tissue growth. These lesions are often associated with chronic irritation, hormonal influences, or localized fibrovascular proliferation [(1)]. While commonly reported in genital and breast tissue, fibroepithelial pseudotumor occurring in the lower limb are exceedingly rare [(2)]. The clinical presentation of fibroepithelial pseudotumor can closely resemble neoplastic soft tissue tumours, leading to diagnostic confusion [(3)]. They typically present as slow-growing, well-defined masses that may cause functional limitations, pain, or psychological distress due to their size and location. This case report describes a rare occurrence of a fibroepithelial pseudotumor in the lower limb, emphasizing the diagnostic approach, surgical management, and clinical outcomes.

Case report:

A 41-year, male presented with a progressively enlarging mass on his right leg, first noticed 30 years back, which eventually involved nearly the entire lower leg and led to significant functional limitations, psychological distress, and sexual dysfunction. On physical examination, a massive swelling was noted extending from the ankle to approximately 5 cm below the knee joint,nearly involvingthe entire circumference of lower limb except an area over the lateral compartment; the mass was non-tender, firm with well-defined borders, and exhibited non-pitting oedema without any local warmth or any skin changes (Ligand 1). A colour Doppler ultrasound of the right leg revealed subcutaneous oedema with an associated mass lesion and saphenofemoral junction incompetence, findings consistent with chronic lymphedema. Anticipated surgical challenges included the lesion’s large size and volume, the risk of significant blood loss, potential recurrence, and the need to preserve sufficient skin for closure. Accordingly, a pre-anaesthesia workup was completed and the circumference of the contralateral leg was measured to ensure that 2.5 times the required skin was preserved , marking was done to preserve sufficient skin for closure. The procedure was performed under spinal anaesthesia with a tourniquet. Split-thickness skin graft was first harvested from the area to be excised, just in case its needed for subsequent coverage of raw area , followed by flap marking of 7x7cm in both the planes of the lump, taking the lateral septum as the pedicle and then the lesion was excised (Ligand 2a and 2b)—which was confined to the subcutaneous plane and did not extend beyond the deep fascia—resulting in a debulked specimen measuring 45 cm by 29 cm (ligand 3) and weighing 6.640 kg (ligand 4). Postoperatively, a vacuum drain (Romovac drain) was placed, secondary flap suturing was performed on postoperative day 2, and continuous dressing changes were maintained; the patient was mobilized on postoperative day 3 following physiotherapy. The histopathological examination of the excised specimen was suggestive of abundant oedema in dermis, the stroma is loose , oedematous showing plump fibroblasts and marked chronic inflammation.

Discussion

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These lesions are believed to arise due to localized fibrovascular hyperplasia, chronic irritation, or hormonal influences [4]. Clinically, they present as slow-growing, firm masses that may cause functional impairment, cosmetic concerns, and discomfort [5]. Differentiating fibroepithelial pseudotumor from other soft tissue lesions is crucial. Unlike plexiform neurofibromas, which originate from nerve sheath cells, pseudotumor lack Schwann cell proliferation [6]. Similarly, lipomas are typically softer and encapsulated, whereas pseudotumor have a firmer consistency. Sarcomas, in contrast, display aggressive growth, mitotic activity, and necrosis, which are absent in pseudotumor [7]. Surgical debulking is the treatment of choice, ensuring functional restoration and improved aesthetics. Proper preoperative planning, skin preservation, and postoperative rehabilitation are essential to achieving optimal recovery and preventing recurrence.

Conclusion

Fibroepithelial pseudotumor are rare benign soft tissue proliferations that can mimic neoplastic conditions, making accurate diagnosis essential. Although commonly reported in genital and breast regions, their occurrence in the lower limb is extremely rare. This case highlights the importance of thorough clinical evaluation, imaging, and histopathological examination to distinguish pseudotumor from malignant or infiltrative lesions. Surgical debulking remains the treatment of choice, ensuring functional restoration and improved aesthetics. Proper preoperative planning, meticulous excision, and postoperative rehabilitation play a crucial role in achieving optimal patient outcomes. Given the rarity of fibroepithelial pseudotumor in atypical locations, further research is needed to understand their pathogenesis and best management practices. Early intervention can prevent complications and enhance the patient's quality of life.

Conflicts of interest: None

Source of funding: None.

Ethical approval: This case report did not require ethical approval from ethics committee.

Consent: Written informed consent was obtained from patient.

LIGANDS:

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LIGAND 1:circumferential swelling extending from 5cm below the ankle to below the knee, sparing the lateral compartment.

LIGAND 2a: Intra op pic showing dissection plane of surgery

LIGAND 2b: Intra op pic showing tumour dissection from the underlying muscle

LIGAND 3a: Photo of excise specimen **(**45*29 cm)

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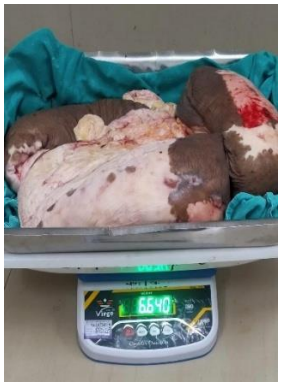

LIGAND 3b: Photo of excise specimen of 6.640kg

POST OP PIC ON DAY 20:

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