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PEDUNCULATED LIPOFIBROMA A RARE CASE, CASE REPORT

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Case Report

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Abstract. Lipofibroma is a benign soft tissue neoplasm characterized by the proliferation of mature adipose tissue interspersed with collagen fibers. Although histologically benign, its uncommon clinical presentation can lead to diagnostic challenges, often mimicking other subcutaneous lesions such as lipomas, dermatofibromas, or even malignant soft tissue tumors. We present the case of a 26-year-old male who sought medical evaluation for a slow-growing mass in the right gluteal region, with an 11-year history of progression. The lesion caused discomfort during prolonged sitting and physical activity. The patient had no relevant medical history. Physical examination revealed a 4 cm pedunculated, mobile, and non-tender mass. Histopathological analysis demonstrated a central fibrovascular core with dense collagen bands admixed with mature, non-encapsulated adipocytes, confirming the diagnosis of lipofibroma. Given the symptomatic nature of the lesion, surgical excision was performed as definitive treatment, resulting in complete resolution and an uneventful postoperative recovery. In conclusion, pedunculated lipofibroma is a rare benign tumor that requires careful differential diagnosis to rule out other soft tissue lesions. Surgical resection remains the gold standard for symptomatic cases, ensuring both functional and cosmetic success. This case highlights the importance of histopathological confirmation in guiding appropriate management, as clinical presentation alone may be insufficient for accurate diagnosis. Furthermore, it underscores the favorable prognosis associated with complete excision, with no reported recurrence in this patient. Awareness of this entity can aid clinicians in avoiding misdiagnosis and ensuring optimal patient outcomes.

Keywords — Lipofibroma. Benign tumor. Pedunculated tumor. Adipose tissue.

1 Introduction

Lipofibromas are rare, solitary, painless, benign tumors with a soft consistency, and their main locations are: around the thighs, buttocks and trunk; they are considered to have a predilection for pressure areas and predominate in older adult patients and obese individuals [1–3]. They are usually asymptomatic, but can cause symptoms as they get older and affect daily activities. Their diagnosis is defined by histology, with the presence of ectopic adipose tissue in the dermis [3, 4].

The presentation of this clinical case of pedunculated lipofibromatosis is highly relevant to medical literature due to its rarity and the limited documentation available. By sharing this case, we expand existing knowledge, providing other healthcare professionals with a valuable reference for recognizing and diagnosing similar conditions. Furthermore, this case contributes significantly to medical literature, serving as a reference for future research and studies. From an educational standpoint, detailing the clinical characteristics, histological findings, and surgical management provides essential guidance for other professionals in managing similar cases. Lastly, by sharing a successful treatment experience, we promote continuous improvement in clinical practice, enhancing patient care.

2 Case Report

A 26-year-old male patient from the city of Cuenca, Ecuador; who came to the dermatology office indicating discomfort when sitting due to a pedunculated tumor in the right gluteal fold of 15 years of evolution.

On admission the patient is stable with vital signs within normal parameters, oriented in time, space and person. In the anamnesis he indicates that the tumor started as a small one when he was a child of 11 years old and that it grew progressively over the years during his adolescence, he also mentions that he never presented ulcerations, bleeding, change of color or pain. In addition, he mentions that when he does physical exercise or drives his motor vehicle, he presents discomfort. Physical examination of the lower limbs in the right gluteal fold revealed a tumor with a pedunculated base measuring approximately 4cm x 4cm, with no changes in skin color, smooth edges, mobile, and not painful on palpation. No regional adenopathies were identified. The rest of the physical examination was within normal parameters. No pathological history of importance.

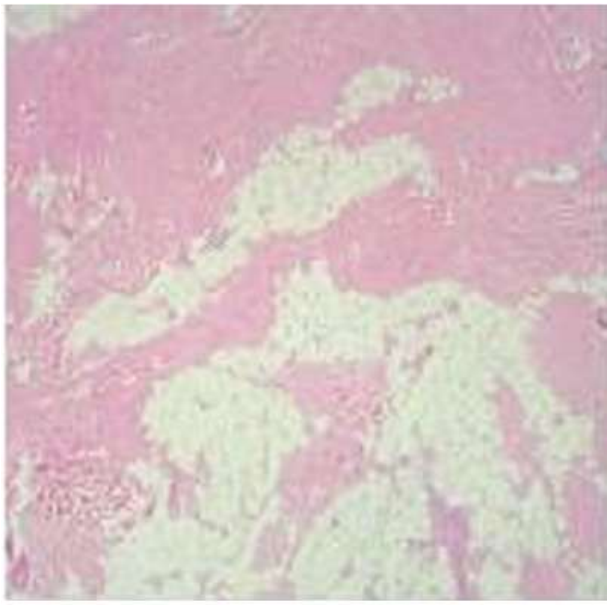
Treatment With asepsis and antisepsis measures, surgical excision of the lesion was performed with cold cut under local anesthesia, performing a complete excision with primary closure of the skin. The anatomical piece was sent for histopathological analysis which revealed that the central stromal stalk is composed of adipose tissue lobules and fibrous fascicles of collagen bands, which surround and intermingle with adipocytes.

Postoperative patient presented favorable evolution at 3 days of medical control, the wound was in the process of healing, slightly erythematous edges, with no evidence of suppuration or tissue dehiscence. At the 10 day control, favorable evolution was evidenced, there was no presence of seroma or tissue dehiscence, the edges were not inflamed with a good epithelial remodeling process, so the skin stitches were removed; it was reevaluated at 30 days with good healing process, there was no pain from the surgical site or a remnant of the tumor, good progress of epithelial regeneration was evidenced, the patient in good

Figure 1: Pedunculated lipofibroma. Pedunculated tumor lesion, lobulated surface, 4cm long.

Source: Prepared by the author.

Figure 2: Central stalk consisting of collagen bands intermixed with unencapsulated mature adipocytes.



Source: Prepared by the author.

general condition with favorable evolution, medical discharge was indicated.

3 Discussion

Lipofribroma is a rare benign tumor that usually occurs in the subcutaneous tissue and is characterized by fibrous and fatty components. Clinically, it presents as a soft, mobile, and sometimes pedunculated mass. Our clinical case described here matches the typical clinical presentation of lipofibroma with that reported according to Suleiman [3] who describes these tumors as solitary, slow growing and can occur in various locations including thighs, buttocks and trunk. This clinical correlation helped us to guide our diagnosis.

In the present case, the patient was in the second decade of life and the location of the tumor was in the right gluteal region, which coincides with case series that indicate a predilection to occur in the first three decades of life; and the most common sites are the pelvic girdle, with predilection in the gluteal region, in addition to pressure areas such as axillae, knees and scalp [3, 5–7]. This strengthens the correlation between the clinical case and the existing literature.

The cause of this pathology remains unknown, although it is considered a benign proliferation of connective tissue with adipocytes in the dermis [2, 8, 9]. However, it is believed to be associated with genetic factors and may arise after trauma or injury to the affected area. In our patient, the tumor originated in childhood with no history of obvious trauma, and its growth from a small to a noticeable mass over 15 years reinforces the indolent and slowly expanding nature that characterizes these lesions. Although some studies have suggested a possible association of pedunculated lipofibroma with obesity and diabetes, this relationship has not yet been fully established. While Adotama et al.[1] reported three cases in obese adults and Nogita et al. [10] found a 21% association with. In this case, the patient had no relevant metabolic history, which reinforces the hypothesis that these factors may be incidental and not necessarily binding.

The age of presentation is mainly in people older than 20 years. Although they are usually asymptomatic, larger lesions can affect daily activities as occurred in this case where the patient reported discomfort in daily life. Surgical intervention was required for esthetic reasons or due to possible complications [4, 11].

Complications of pedunculated lipofibromas, although rare, may include ulceration and necrosis, especially in lesions subjected to constant friction, repeated trauma or torsion of the pedicle. Ulceration usually occurs in lipofibromas located in areas of pressure, which generates irritation, pain and even risk of secondary infection [1]. Although the theory indicates the possibility of certain complications in the comparative to our case there was no possible complication described above.

On the other hand, necrosis may occur due to vascular insufficiency, either by prolonged compression or torsion of the pedicle, which causes tissue ischemia with changes in color of the lesion and possible severe pain [2]. In addition, large lipofibromas or those with thin pedicles present a higher risk of necrosis, which can lead to deep ulcerations and severe inflammatory processes [12].

Histopathological study continues to be the definitive diagnostic standard for this type of lesions. From the histopathological point of view, we confirmed the presence of mature

adipocytes organized in compartments and separated by thin fibrous septa with thick-walled blood vessels, which allows their differentiation from entities such as superficial nevus lipomatosus and fibrolipoma [2, 5]. The histopathology study allowed us to identify the characteristic structures to guide our definitive diagnosis. At the histological level in the dermis we will find ectopic adipose tissue, not encapsulated, composed of well differentiated adipocytes, forming islets or bands, which are intermingled with collagen fibers, and sometimes have a marked perivascular arrangement around small and medium caliber vessels and can also be found in perianexial arrangement [5, 13, 14]. The surgical approach by excision with primary closure under local anesthesia was effective, safe and resolutive, with no postoperative complications or signs of recurrence at 30-day follow-up. This is consistent with what has been reported in the literature, which highlights the low recurrence rate after complete resection. Its value lies in reaffirming the clinical and histologic characteristics of this rare entity and highlighting the importance of its timely recognition in order to avoid functional and emotional affectations in the patient.

4 Conclusion

Pedunculated lipofibroma is a relatively rare and very little reported pathology, in fact, in Ecuador there is no study or clinical case on the subject and there are very few cases reported in Latin America. The clinical case presented highlights the infrequent nature of pedunculated lipofibroma, a benign neoplasm that, despite its benignity, can generate diagnostic confusion due to its similarity to other subcutaneous lesions. The clinical evaluation and histopathological analysis confirm the diagnosis, the definitive treatment is surgical excision. The patient's recovery was satisfactory, with no complications or recurrences, underscoring the importance of proper diagnosis and timely surgical management. This case emphasizes the need to consider lipofibroma in the differential diagnosis of similar lesions, thus ensuring effective treatment and improving the patient's quality of life.

Data Availability

Data and materials do not apply as this is an individual case report.

Ethics Approval

Written informed consent was obtained from the patient for publication of the clinical details and images. The study was conducted in accordance with the principles of the Declaration of Helsinki.

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Supplementary Information

No supplementary material.

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