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Case Report: A Rare Case Cellular Angiofibroma Presenting as an Inguinal Mass in Male Patient

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Abstract

Cellular angiofibroma is a rare, benign mesenchymal tumor, typically arising in the inguinoscrotal region of males and the vulvovaginal region in females. [1,2] This case report presents a 51-year-old male with a left inguinal mass, ultimately diagnosed as a cellular angiofibroma following imaging, surgical excision, and histopathological evaluation.

Keywords: *Cellular Angiofibroma, Inguinal Mass, Male Patient.*

Introduction

Cellular angiofibroma is a benign, well-circumscribed, slow-growing soft tissue neoplasm with a predilection for the genital region. It is histologically characterized by spindle cells, prominent vasculature, and collagenous stroma. [3,4] Due to its rarity, it is often misdiagnosed preoperatively. Here, we present a rare case of cellular angiofibroma of the left inguinal region in a middle-aged male.

Case Presentation

A 51-year-old male presented to the outpatient department with a complaint of a painless, gradually enlarging mass in the left inguinal region that had been present for 3 years. The mass appeared suddenly without any history of trauma and had progressively caused discomfort and interfered with daily activities. The patient denied constitutional symptoms, urinary complaints, or systemic illness. His past medical and surgical histories were unremarkable.

Clinical Examination

On physical examination, a firm, non-tender, mobile mass was palpated in the left inguinal region. There were no overlying skin changes, no palpable inguinal lymphadenopathy, and both testes were normally positioned in the scrotum.

Laboratory and Radiological Investigations Routine blood workup was unremarkable. CT Pelvis with IV Contrast revealed:
A well-defined heterogeneously enhancing soft tissue mass

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within the left inguinal canal, measuring 2.3 × 1.8 cm.
No lymphadenopathy or intra-abdominal pathology.
No signs of bowel obstruction or organomegaly.

Scrotal and Inguinal Ultrasound showed:
A well-defined hypoechoic solid lesion (26 × 16 mm) in the left inguinal region adjacent to the spermatic cord.
Grade II left varicocele and Grade I right varicocele.
Normal bilateral testes and epididymides; no hydroceles.

A provisional diagnosis of a soft tissue tumor versus an undescended testis was made, and surgical excision was planned.

Treatment

The patient underwent elective surgical excision of the mass under spinal anesthesia. The operation proceeded uneventfully. The specimen, along with segments of proximal and distal vas deferens, was sent for histopathological analysis.

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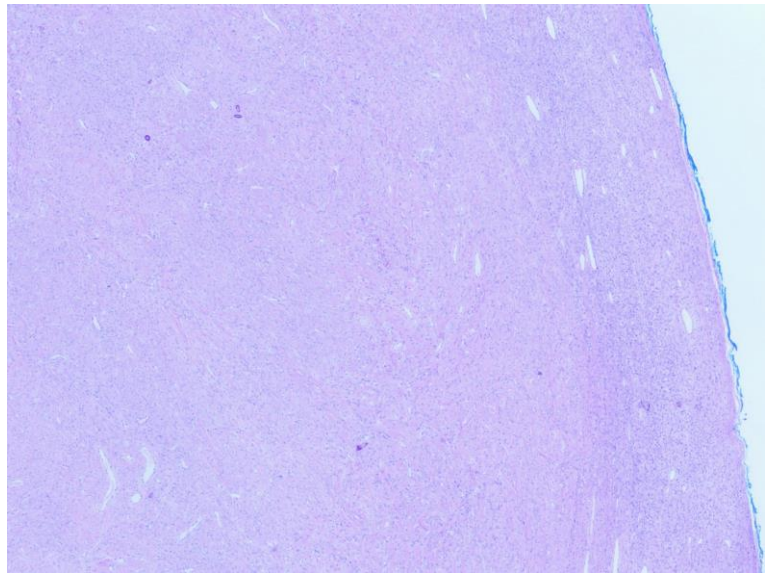
Histopathological Findings Gross Pathology:
A well-circumscribed oval mass (2.5 × 2 × 1.5 cm) with a firm, whorled, fibrous appearance on cut section.

Microscopy:
A spindle cell neoplasm arranged in intersecting fascicles with variable cellularity.
Numerous ectatic, thin- and thick-walled blood vessels with hyalinization.
No necrosis, atypia, or significant mitotic activity (1–2/10 HPFs).
Numerous mast cells and lymphocytes were present in the stroma.

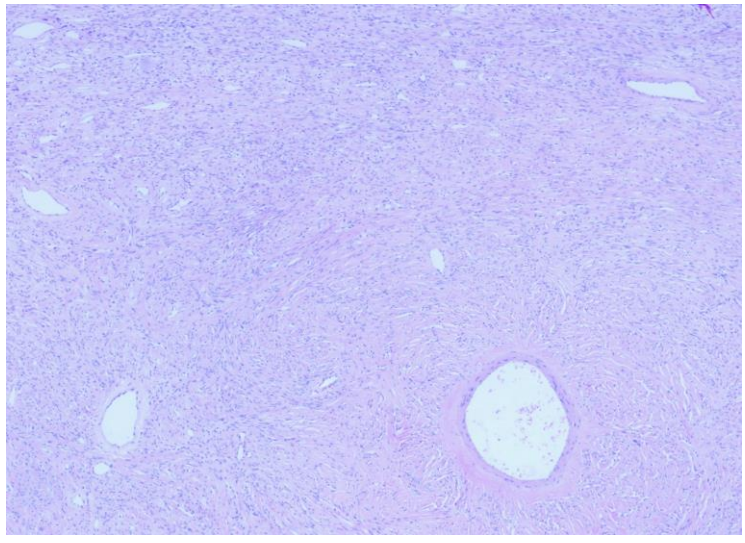


Immunohistochemistry:
Positive: Vimentin, BCL2 (strong), CD34 (focal), SMA and desmin (scattered).
Negative: S100, ER, PR, calretinin, CKAE1/AE3, EMA, CD117, CD31, caldesmon.
Ki-67 proliferation index: Low (1–2%).

Figure 1
Low-power view of cellular angiofibroma showing a well-circumscribed, unencapsulated, moderately cellular spindle cell neoplasm (hematoxylin-eosin, original magnification x20).

Figure 2

Cellular angiofibroma is comprised of proliferation of spindle cells arranged haphazardly and in intersecting fascicles. Prominent small to medium to large-sized, thin and thick-walled, focally hyalinized blood vessels with ectatic rounded and irregularly branching lumina are seen (hematoxylin-eosin, original magnification x40).



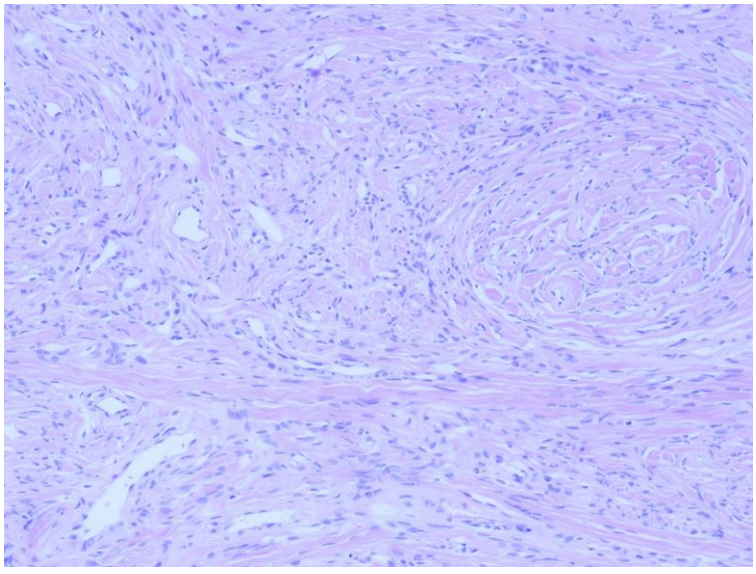


Figure 3
Tumor is comprised of short spindled to ovoid with scant pale eosinophilic cytoplasm set in a collagenous background (hematoxylin-eosin, original magnification x100).
Diagnosis:

- Features consistent with Cellular Angiofibroma of the left inguinal region.
- Tumor completely excised.
- No tumor involvement of the vas deferens

Outcome and Follow-Up

The patient was reviewed on post-operative day 14. He reported no new complaints, and the surgical site was well-healed. He was discharged from outpatient follow-up with no evidence of recurrence and was considered cured.

Discussion

Cellular angiofibroma is recognized as a rare benign mesenchymal tumor with a strong predilection for the genital region, predominantly the inguinoscrotal area in males and the vulvovaginal region in females. While its occurrence in these typical locations is documented in the literature, its presentation in the inguinal canal, as seen in this case, is less common, underscoring the rarity of this specific anatomical presentation. Existing case reports and small case series primarily focus on the more typical sites, highlighting the importance of documenting unusual locations to expand the understanding of this entity's clinical spectrum.

The differential diagnosis for a soft tissue mass in the inguinal region of a male is broad and includes both benign and malignant entities. Initially, the possibility of an undescended testis was considered, which was effectively ruled out by both imaging and intraoperative findings. Other benign lesions in this region can include lipomas, fibromas, neurofibromas, and inguinal hernias. [5] Lipomas, however, typically present with a more fatty consistency on palpation and distinct

imaging characteristics. Fibromas and neurofibromas, while also benign spindle cell tumors, often lack the prominent vascularity seen in cellular angiofibromas and exhibit different immunohistochemical profiles (e.g., S100 positivity in neurofibromas).

Inguinal hernias, a common cause of inguinal swelling, usually present with reducibility and may be associated with Valsalva maneuvers, features absent in this case.

Malignant soft tissue tumors, such as sarcomas (e.g., leiomyosarcoma, spindle cell sarcoma), also enter the differential. These are typically more aggressive in their growth pattern and may present with pain or systemic symptoms, which were not features of this patient's presentation. Imaging findings of sarcomas might reveal infiltrative borders or heterogeneous enhancement patterns different from the well-defined mass observed in this case.

Specifically, when considering spindle cell lesions with vascularity, aggressive angiomyxoma is a crucial differential. [5] While also occurring in the genital region, aggressive angiomyxomas tend to be larger, more infiltrative, and characterized by abundant myxoid stroma with fewer cellular components and a different vascular pattern.

Immunohistochemically, they typically express desmin and smooth muscle actin (SMA) more diffusely than the focal staining seen in this cellular angiofibroma.

Another important consideration is solitary fibrous tumor (SFT). SFTs can occur in various locations and are composed of spindle cells with a prominent vascular pattern and stromal collagen. However, SFTs typically show strong and diffuse CD34 positivity, along with STAT6 nuclear expression, which were absent in this case.

Spindle cell lipoma is another benign entity that can present as a soft tissue mass. [1] However, it characteristically contains mature adipocytes admixed with spindle cells and is typically CD34 positive, unlike the findings in this case.

Finally, other less common entities like nerve sheath tumors (benign or malignant) could be considered, but their characteristic S100 positivity helps to distinguish them from cellular angiofibroma.

The definitive diagnosis of cellular angiofibroma relies on the constellation of histopathological features, including the biphasic pattern of spindle cells and prominent vasculature, the absence of significant atypia or mitotic activity, and the specific immunoprofile [2,3,4] (positive for vimentin and BCL2, often focally positive for CD34 and SMA, and negative for other markers like S100 and desmin in a diffuse pattern). The low Ki-67 proliferation index further supports its benign nature.

Complete surgical excision remains the cornerstone of treatment for cellular angiofibroma, and as demonstrated in this case, it offers an excellent prognosis with a low risk of recurrence [4], provided the tumor is completely resected.

Conclusion

This case highlights the importance of considering cellular angiofibroma in the differential diagnosis of inguinal masses in males. Accurate diagnosis through histopathological examination and immunoprofiling is crucial to avoid overtreatment. Surgical excision remains the treatment of choice, with excellent prognosis.

Patient Consent

Informed consent was obtained from the patient for publication of this case report and associated images.

References

Nucci MR, Granter SR, Fletcher CDM. Cellular angiofibroma: a benign neoplasm distinct from angiomyofibroblastoma and spindle cell lipoma. Am J Surg Pathol. 1997;21(6):636–644. doi:10.1097/00000478-199706000-00002.

Iwasa Y, Fletcher CDM. Cellular angiofibroma: clinicopathologic and immunohistochemical analysis of 51 cases. Am J Surg Pathol. 2004 Nov;28(11):1426-35. doi: 10.1097/01.pas.0000138002.46650.95.

Mandato VD, Santagni S, Cavazza A, Aguzzoli L. Cellular angiofibroma in women: a review of the literature. Diagn Pathol. 2015 Jul 19:10:114. doi:10.1186/s13000-015-0361-6.

Chen E, Fletcher CDM. Cellular angiofibroma: clinicopathologic study of 25 cases and review of the literature. Histopathology. 2004 Nov;28(11):1426-35. doi: 10.1097/01.pas.0000138002.46650.95.

McCluggage WG, Patterson A, Maxwell P. Aggressive angiomyxoma of pelvic parts exhibiting immunoreactivity with CD34. Histopathology. 2000 Aug;53(8):603-5. doi: 10.1136/jcp.53.8.603.