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Case Report

Benign Spindle Cell Neoplasm of the Helix: A Rare Cutaneous Ear Tumor

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Abstract

Spindle cell neoplasms of the external ear are rare and comprise a heterogeneous group of benign and malignant mesenchymal tumors. Their nonspecific clinical features often require histopathological evaluation for definitive diagnosis. We report a case of a 40-year-old male with a painful, firm tubular swelling on the left helix for one year. Complete excisional biopsy under general anesthesia was performed, extending to the cartilaginous base. Histopathology confirmed a benign spindle cell neoplasm. The patient recovered well with no recurrence. This case highlights the rarity of spindle cell neoplasms in the auricle and emphasizes the importance of accurate diagnosis and complete surgical excision.

Keywords: Spindle Cell Neoplasm; Ear Cartilage; Helix; Schwann Cells; Smooth Muscle Cell; Rare Cartilage Tumor; Rare Ear Tumor

Introduction

Spindle cell neoplasms represent a diverse group of soft-tissue tumors characterized by elongated spindle-shaped cells derived from fibroblasts, myofibroblasts, Schwann cells, or smooth muscle cells [1-3]. Their occurrence in the head and neck region is relatively uncommon, and involvement of the auricle is particularly rare due to the limited mesenchymal content of the external ear [4,5]. Auricular swellings are typically epithelial or perichondrial in origin, making spindle cell lesions an unusual diagnostic consideration [6,7]. This case report presents a benign spindle cell neoplasm of the helix and underscores the importance of considering mesenchymal tumors in the differential diagnosis of ear lesions.

Case Report

A 40-year-old male presented with a one-year history of a tubular swelling over the left helix associated with intermittent localized pain. There was no history of trauma, discharge, bleeding, or systemic symptoms.

Examination revealed a firm, tender swelling approximately 2 cm in diameter on the left helix. The overlying skin was normal, and the lesion was non-pulsatile. No cervical lymphadenopathy was observed.

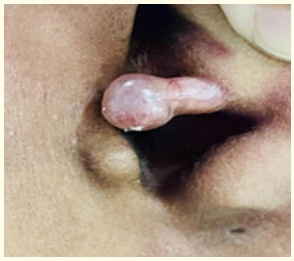

Image 1: Tubular swelling arising from the left helix region.

A planned excisional biopsy under general anesthesia was performed, with complete excision extending to the cartilaginous base. Hemostasis was achieved with cautery, and the wound was left open for healing with secondary intention.

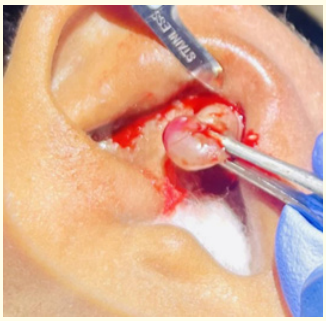

Image 2: Intraoperative image. The swelling being excised.

Histopathology showed interlacing fascicles of spindle-shaped cells with bland, elongated nuclei, minimal atypia, and low mitotic index, consistent with a benign spindle cell neoplasm (Image 3).

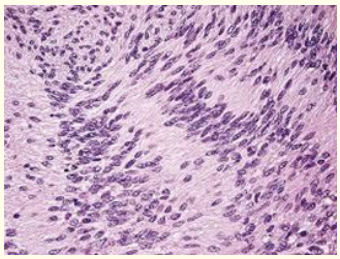

Image 3: Histopthology slide image.

The postoperative recovery was uneventful with no recurrence observed on follow-up till 1 year (Image 4).

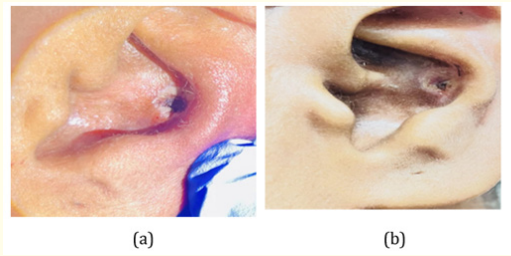

Image 4: Postoperative images (a) 2 weeks (b) 6 months.

Discussion

Spindle cell neoplasms encompass a broad spectrum of benign and malignant tumors characterized by elongated spindle-shaped cells originating from mesenchymal, epithelial, or neuroectodermal lineages [1]. Their occurrence in the auricle is exceedingly rare due to the limited presence of mesenchymal elements within the pinna, which is composed primarily of skin, perichondrium, and elastic cartilage [2]. Consequently, auricular spindle cell tumors represent less than 1% of benign soft-tissue tumors of the head and neck, making every reported case clinically important [3].

Most spindle cell tumors typically arise in regions with abundant connective tissue such as the trunk and extremities, while the auricle remains a distinctly uncommon site. The scarcity of mesenchymal stroma in auricular cartilage and perichondrium accounts for this rarity [4]. Previous literature has documented only isolated cases of spindle cell lesions—including lipomatous, fibroblastic, and neural derivations—arising from or around the auricular cartilage, underscoring the uniqueness of such presentations [3,4].

The current case adds to the limited literature by demonstrating an unusual spindle cell neoplasm arising from the helix with a tubular morphology and localized pain. While benign spindle cell tumors often exhibit a male predominance—particularly spindle cell lipoma and certain fibroblastic tumors—neurogenic spindle cell lesions show no strong gender bias [4,5]. The demographic profile of the present 40-year-old male aligns with typical epidemiologic trends for benign spindle cell tumors.

Accurate characterization of auricular spindle cell lesions is crucial because their clinical appearance is highly nonspecific. Benign spindle cell proliferations may closely mimic malignant counterparts such as low-grade sarcomas, spindle cell carcinoma, or spindle cell melanoma [6,7]. Spindle cell carcinomas can demonstrate aggressive behavior with potential for local invasion and even intracranial extension, highlighting the importance of thorough histological evaluation and the role of immunohistochemistry in distinguishing epithelial from mesenchymal malignancies [8].

In benign cases, excisional biopsy not only provides definitive diagnosis but is often curative. In contrast, identification of malignant spindle cell pathology would mandate wider surgical margins, additional imaging evaluation, and potentially adjuvant therapy [7,8]. Thus, histopathology remains the diagnostic gold standard, supported by immunohistochemical markers—such as cytokeratins, S-100, SMA, desmin, or CD34—particularly when cell lineage is ambiguous [6-8].

This case is significant because spindle cell tumors of the helix are rare, and the clinical presentation may overlap with more aggressive pathologies. Documenting such occurrences contributes to improved recognition, diagnostic accuracy, and understanding of biological behavior in this unusual anatomical site. Continued reporting of similar lesions will expand the collective knowledge base and aid clinicians in managing these uncommon auricular tumors.

Conclusion

Benign spindle cell neoplasms of the auricle are rare and may mimic more common inflammatory or cystic lesions. This case underscores the importance of clinical suspicion, complete excision, and histopathological confirmation for accurate diagnosis. Awareness of such rare tumors is essential to ensure proper management and avoid misdiagnosis.

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