

Safe Resection of a Sub-Zygomatic Atypical Lipomatous Tumor with Intraoperative Nerve Monitoring

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Background

Atypical lipomatous tumors (ALTs), also known as well-differentiated liposarcomas, are rare adipocytic neoplasms that can clinically mimic benign lipomas due to their slow growth and soft consistency. This resemblance may delay diagnosis and definitive management. Although ALTs most commonly occur in the extremities or retroperitoneum, involvement of the head and neck is uncommon and presents unique surgical challenges because of the dense concentration of critical neurovascular structures and potential aesthetic consequences.

Methods

A 73-year-old female presented with a longstanding left scalp and facial mass first noticed several decades earlier. The lesion had gradually enlarged and recently extended into the midface, prompting re-evaluation. Physical examination demonstrated a large compressible mass involving the left frontotemporal scalp and lateral cheek with associated facial asymmetry. MRI revealed a complex lipomatous lesion extending from the frontotemporal scalp into the parapharyngeal space with nonuniform signal characteristics concerning for liposarcoma. The patient underwent surgical excision with intraoperative facial nerve monitoring. Access to the deep component of the tumor was achieved using medial and lateral zygomatic arch osteotomies to facilitate complete dissection.

Results

The mass was successfully dissected from the temporalis muscle, parapharyngeal space, and buccal space while preserving the facial nerve and the mandibular division of the trigeminal nerve. Following tumor removal, the zygomatic arch was anatomically reduced and secured with miniplates. Final pathology confirmed an atypical lipomatous tumor. The patient's postoperative course was uncomplicated with preserved facial nerve function and appropriate wound healing. A concavity at the frontotemporal region remained due to chronic compression from the longstanding tumor.

Conclusions

Head and neck ALTs may be overlooked because of their benign clinical appearance and slow growth. Chronic or deeply extending lipomatous masses should prompt advanced imaging and careful operative planning. In cases involving critical facial structures, intraoperative nerve monitoring and strategic osteotomy may facilitate safe resection while preserving function. Complete surgical excision remains the mainstay of treatment to minimize recurrence and potential dedifferentiation, and long-term follow-up is recommended.