Re: “Effect of Piecemeal vs En Bloc Approaches to the Lateral Temporal Bone on Survival Outcomes”

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We read with great interest the article by Muelleman et al concerning piecemeal resection versus lateral temporal bone resection (LTBR) of T1-T3 squamous cell carcinoma (SCC).1 The authors state that piecemeal resection might be required in cases of low-lying tegmen or laterally placed vascular structures. In the >250 LTBRs performed by our group, these 2 anatomic constraints are exceedingly rare (<5%).

Anatomic constraints to standard en bloc LTBR are addressed with careful surgical technique. Low-lying tegmen is handled by following the middle fossa dura medially and anteriorly until the temporomandibular joint capsule is reached. In cases where this bone is <2 mm thick, the superior bony canal is drilled away, but the remaining canal is still intact, allowing en bloc resection. The high-riding jugular bulb and the laterally placed carotid artery present their own challenges. The high-riding jugular bulb is always medial to the facial nerve, and the facial nerve is generally preserved with en bloc LTBR. Thus, staying lateral to the facial nerve and working medial to the annulus allows the surgeon to surpass the high-riding jugular. The laterally placed carotid is slightly more difficult to handle and is why osteotomes are not used. Intraoperatively, the lateral carotid canal is identified in the middle ear after the hypotympanic air cells have been removed. The surgeon can then follow the carotid canal and drill between it and the annulus to complete the inferior canal cut.

The authors do not adequately describe their patient population. It is unclear if all cases were primary SCC of the ear canal or if they included external ear SCC, periauricular SCC, or metastatic SCC to the parotid gland that secondarily involved the ear canal. The authors omit other confounders between the groups, such as age, bone invasion, perineural invasion, and lymph node metastases. The reason for piece-meal resection is not included.

From an oncologic viewpoint, the follow-up time in this series is inadequate (median, 11 months; 40% with <4 months), given that the mean time to recurrence for SCC of the ear canal is 13 months2 but can be as long as 3 years.3 In fact, one is unable to determine if there is a simple difference in follow-up time between the groups. This article has too many deficiencies to make any conclusions regarding oncologic safety of such an approach.

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References

In Reply to: “Effect of Piecemeal vs En Bloc Approaches to the Lateral Temporal Bone on Survival Outcomes”

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We appreciate the comments by Gidley et al on our “Effect of Piecemeal vs En Bloc Approaches to the Lateral Temporal Bone on Survival Outcomes.” Overall, we agree with their comments and would like to respond.
The patient population in this study was heterogeneous: 64% of the tumors were recurrent or persistent and had undergone previous radiation or surgery; 20% had associated lymphadenopathy; and 72% involved the auricle. Our patients underwent 1 of 4 categories of adjuvant therapy: no adjuvant therapy, radiation, chemotherapy, or combination therapy. We investigated the confounders among groups but were unable to evaluate the effects of these variables on our outcome measure due to sample size. The confounders evaluated include microscopic positive margins, perineural invasion, extracapsular spread, multiple positive lymph nodes, lymphovascular invasion, facial nerve sacrifice, postoperative adjuvant treatment, N stage, and M stage.

These limitations are included in the original manuscript. In addition, it should be noted that this study investigates a subset of a rare disease. As stated in the article, the difficulties that we encountered in attempting to establish a homogeneous patient sample and treatment paradigm are inherent to the clinical study of rare diseases. We attempted to overcome this limitation by looking at patients over a 10-year span from 2 institutions.

We agree that the study has too many deficiencies to make a definite conclusion regarding oncologic safety, and we deliberately worded a gentle conclusion in our article. Overall, we hold the philosophy that tumors primarily originating from the ear canal or from the auricle or periauricular skin with gross bony canal involvement should undergo en bloc resection, and we make every attempt to do so. We reserve piecemeal temporal bone resection for patients who have actinic squamous cell carcinoma of the auricle or periauricular skin that invades the skin of the ear canal with minimal bony involvement. Our conclusion reads that piecemeal resection can be considered for cases of squamous cell carcinoma involving the external auditory canal where anatomic constraints preclude a safe en bloc resection.

Disclosures

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