INTRODUCTION

Surgery plays an integral role in curative treatment for parotid malignancies. The facial nerve courses through the parotid gland and iatrogenic injuries are possible. Care must be taken to visualize and preserve the nerve in order to minimize the risk of postoperative paresis and paralysis. However, when tumor grossly invades the nerve, it becomes necessary to surgically remove the involved segments in order to achieve sound oncologic results.

The workup for parotid neoplasms includes history, physical exam, biopsy and imaging. Various aspects of the preoperative evaluation can suggest facial nerve involvement, but ultimately the decision to resect the facial nerve can only be made during surgery based on the surgeon’s clinical judgment. At our institution, every effort is made to preserve the facial nerve, reserving resection for instances in which gross tumor invasion is present (Figure 1).

RESULTS (CONT.)

Tumor Characteristics as Independent Predictors of Recurrence and Survival

We assessed whether these markers of tumor aggressiveness had impact on recurrence rates, disease free and overall survival independent of whether the facial nerve was sacrificed. Increased rates of recurrence, decreased DFS and decreased OS were associated with larger tumors, higher rates of angiolymphatic invasion, perineural invasion, extracapsular invasion, positive margins and positive lymph node status. Disease free survival was significantly associated with angiolymphatic invasion (40.9% recurrence vs 13.8% in absence of angiolymphatic invasion, p = 0.03) and positive lymph node status (37.5% vs 17.4%, p = 0.03).

Subgroup Analysis of Facial Nerve Sacrifice

Finally, we looked specifically at the facial nerve sacrifice group at whether those that suffered recurrences were more likely to have aggressive tumor characteristics present. Again, larger tumors, higher rates of angiolymphatic invasion, perineural invasion, extracapsular invasion, positive margins and positive lymph node status all translated into worse disease free and overall recurrence rate, albeit without statistical significance likely due to small sample size. Strongest predictors of recurrence were positive margins (p=0.08), extracapsular invasion (0.35), perineural invasion (0.4), angiolymphatic invasion (p=0.5), larger tumor size (p=0.8) and positive lymph nodes (p=0.88).

CONCLUSIONS

1. Facial nerve sacrifice is associated with higher overall recurrence rates, and higher rates of locoregional recurrence, while nerve preservation is associated with more distant metastasis.
2. Overall survival is worse in the facial nerve sacrifice group. However, disease free survival is similar when comparing those who suffered recurrences.
3. Facial nerve sacrifice is associated with tumors with more aggressive markers than nerve preservation.
4. These markers of aggressive tumors are associated with higher recurrence and lower DFS and OS.
5. Positive margins, extracapsular invasion and perineural invasion have the strongest association with recurrence within the facial nerve sacrifice group.
6. With facial nerve sacrifice and adjuvant radiotherapy, DFS and OS are comparable to those of less aggressive tumors.

REFERENCES

5. Positive margins, extracapsular invasion and perineural invasion have the strongest association with recurrence within the facial nerve sacrifice group.