Parotidectomy for Parotid Cancer

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KEYWORDS

• Parotid cancer • Parotidectomy • Facial nerve • Accessory parotid gland carcinoma

KEY POINTS

- Adequate excision of a parotid cancer should be based on the extent of the primary tumor.
- Every attempt should be made to remove all gross tumor. Radiation therapy does not compensate for inadequate surgery.
- The extent of parotidectomy depends more on the extent and location of the tumor than the histology of the tumor.
- The anatomic relationship of the tumor to the nerve dictates the extent of surgery, not the histologic classification of the neoplasm.

INTRODUCTION

Malignancy of the parotid gland requiring surgical management can be considered in 3 groups. First include primary parotid salivary malignancies. Although this group represents a small minority of head and neck tumors overall, parotid cancers represent a high percentage of salivary malignancies. Next, when working up a parotid malignancy, metastatic disease must be considered. This second group most commonly includes cutaneous malignancies (melanoma and nonmelanoma), however, may rarely involve metastatic disease from a distant site. A third less common but encountered situation that requires surgical management is direct extension of tumor into the parotid gland. This extension can be seen in cutaneous malignances, such as in neglected basal cell carcinoma or extension from an advanced oral cavity tumor. For all 3 categories, local control goals and the anatomy encountered may be similar. However, long-term outcomes may vary greatly; therefore, overall goals of surgery should be considered when deciding the extent of surgery, degree of radicality, and preservation/sacrifice of structure and function. The histology of primary salivary malignancies is vast and outcomes vary. For metastatic disease to the parotid gland, this often represents a biologically aggressive tumor, which may harbor features of

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perineural invasion and a propensity for distant spread. In the current article, the authors discuss parotidectomy for parotid cancer: preoperative evaluation, technique, adjunct tools, and the controversies.

PREOPERATIVE EVALUATION

The preoperative approach to malignant disease in parotid tumors focuses on having adequate knowledge to plan the surgery as well as counsel patients and manage expectations. As discussed, most parotid tumors are benign; other than a detailed history and physical examination, additional diagnostic testing rarely alters surgical planning in most cases with well-circumscribed, mobile, slowly growing masses. However, when the history is atypical, the mass is ill defined, facial nerve (FN) involvement is present, or there is skin involvement, additional testing may offer information that defines anatomic boundaries when planning the extent of surgery as well as be useful with patient consulting. Additionally, if preoperative evaluation suggests FN sacrifice is likely, acquiring a team that can address facial reanimation at the time of surgery is beneficial. The authors discuss the history and physical examination with emphasis on findings associated with malignancy, radiographic assessment, and tissue diagnosis.

History and Physical Examination

Stigmata of parotid malignancy
- Rapid growth-fixed mass
- Pain
- FN paralysis
- Skin involvement
- Nodal metastasis

Rapid growth, pain, and FN paralysis represent the stigmata of parotid malignancy; however, in three-quarters of cases,[1] patients will present with an asymptomatic preauricular mass. While pain can sometimes point to infection or inflammatory disease is present in 44% of patients with carcinoma.[2] Facial palsy should always raise suspicion for malignancy and is present in 12% to 19% of patients with a malignant parotid mass independent of tumor size.[1–3] Importantly, in patients diagnosed with Bell palsy that does not improve or worsens, parotid carcinoma should remain high on the differential. In these patients the deep lobe parotid gland can harbor an occult cancer; therefore, attention should be given to the oral cavity as patients can present with swelling of the lateral oropharyngeal wall or soft palate in these cases. Other findings consistent with malignancy include skin involvement and cervical lymph node metastasis. Although skin involvement is a late and alarming sign of parotid malignancy, cervical metastasis is more dictated by the biology of the tumor. For example, in salivary ductal carcinoma and high-grade mucoepidermoid carcinoma, metastatic lymph nodes at presentation are quite high.

Tissue Diagnosis

Indications for preoperative biopsy of parotid lesions
- Is it something other than a salivary gland tumor?
- Will a histologic diagnosis change the management?
- Is the FN dissection likely to be tedious or is FN sacrifice likely?

Options for preoperative tissue diagnosis
- Fine-needle aspiration (FNA)
- Ultrasound-guided core biopsy
- Open biopsy