Evaluation of Parotid Lesions

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KEYWORDS

• Parotid • Mass • Malignancy • Radiology • Biopsy

KEY POINTS

- When working up a parotid lesion, the otolaryngologist must consider inflammatory, neoplastic, autoimmune, traumatic, infectious, or congenital etiologies.
- A complete history should be elicited, including onset, laterality, changes, and associated symptoms (pain, facial weakness, drainage).
- A thorough physical examination is critical, and should include examination of bilateral parotid regions, oral cavity and oropharynx, facial nerve function, and neck.
- Laboratory studies are helpful in the work-up of nonneoplastic, noninfectious parotid lesions, whereas imaging, particularly MRI, remains the gold standard for evaluating neoplastic lesions.
- FNA biopsy, core biopsy, and intraoperative frozen analysis are all acceptable methods of obtaining an accurate tissue diagnosis. Image guidance may enhance biopsy accuracy.

INTRODUCTION

The parotid gland is the largest major salivary gland and is anatomically located anterior to the external auditory canal, overlying the level of the zygoma superiorly, and the ramus of the mandible laterally. Anteriorly, it extends over the masseter muscle, and overlies the sternocleidomastoid muscle posteriorly. A small area of extension posterior to the angle of the mandible is conventionally dubbed the tail of the parotid. The extratemporal facial nerve (ie, distal to the stylomastoid foramen) and its branches divide the parotid gland into its superficial and deep lobes. The differential diagnosis

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for a parotid mass is extensive, and includes inflammatory, neoplastic, autoimmune, traumatic, infectious, or congenital lesions. Because of its unique location in the head and neck, it is critical for the clinician to properly diagnose a parotid mass as actually within the parenchyma of the gland (as opposed to a nearby facial or neck mass).

The parotid gland is comprised of multiple tissue morphologies, including secretory units (acinar cells, intercalated ducts, striated ducts, and excretory ducts), intraparenchymal lymphoid tissue, and myoepithelial cells. Dysfunction of any of these components may manifest clinically as a parotid mass. Accordingly, parotid masses from disparate histologic origins are managed differently. Several large series have demonstrated that roughly 70% of parotid masses are neoplastic,[1,2] 75% to 80% of these parotid tumors are benign, and it is thus important to exclude nonneoplastic conditions to avoid unnecessary operations. Specifically, it is important to exclude congenital, granulomatous, and inflammatory etiologies of parotid enlargement, which may be amenable to primary medical therapy.

A systematic approach to the diagnosis of a parotid mass is of utmost importance, because the differential diagnosis is broad (**Table 1**). The process begins with a complete history and physical examination. Imaging studies, laboratory tests, and pathologic analyses (ie, biopsies) play complementary roles in determining the nature of a parotid mass, and all factors taken together are essential for guiding management.

HISTORY

Any patient presenting with a parotid mass should undergo a comprehensive history and physical examination. It is crucial to delineate how long the mass has been present, and whether its onset was acute or gradual. It is also important to ascertain changes in size over time, and laterality of the lesion (unilateral or bilateral). Associated symptoms including pain, facial weakness, overlying skin changes (eg, erythema, edema, drainage), xerostomia, dry eyes, purulent or thick drainage from within the mouth, or fevers and chills should also be elucidated. If there is facial nerve weakness, it is important to understand the time course of the paresis, because malignancy must be considered high on the differential for patients with gradually deteriorating facial nerve function. In contrast, acute onset facial palsy is more suggestive of a nonneoplastic cause, such as Bell palsy. Exacerbating and alleviating factors for each associated symptom should be elicited. A recent history of trauma, when applicable, is important to note.

The history should also include a list of the patient's medical problems, past surgeries (especially of the face, neck, and ears), current medications (eg, anticholinergics), immunizations (ie, patients with suspected mumps), history of head and neck radiation therapy (ie, radioactive iodine), and social history (including sexual history and a history of eating disorders, such as bulimia nervosa). In patients presenting with suspected parotitis, the clinician should focus on the patient's nutritional status, fluid intake, and hydration habits. A thorough review of systems should be performed. Many parotid lesions are actually otolaryngologic manifestations of systemic diseases, where the first clinical presentation may be as a parotid mass (discussed later).

PHYSICAL EXAMINATION

In a large proportion of cases, a complete physical examination of the parotid mass, in conjunction with a solid history, is sufficient to make a diagnosis.[3] Examination of the mass involves delineating its physical characteristics and anatomic relationships. Is the lesion a discrete mass or diffuse swelling? Is the mass soft and compressible, or firm? Is the mass tender with manipulation and/or associated with overlying skin