Chapter 5
Evaluation of the Parotid Gland

ABSTRACT

This chapter describes the clinical, laboratory, imaging, endoscopic, and histological methods for evaluation of the parotid gland. Diagnostic approaches of parotid gland disorders include clinical evaluation in the form of history-taking (complaints, demographic data, medical profile, medications, and history of the parotid mass itself) and physical examination (intra-oral, extra-oral, and bidigital examination). Laboratory tests entail saliva collection for detection of changes in salivary flow and/or composition. Parotid gland imaging include plain x-ray, sialography, ultrasound (US), computed tomography (CT) scan and CT-sialography, magnetic resonance imaging (MRI), and MR-sialography. Other studies include endoscopy (sialoendoscopy) and parotid biopsy (core-biopsy, frozen-section) and fine needle aspiration cytology (FNAC).

CLINICAL EVALUATION

Despite the availability of modern technology in diagnosis of parotid gland disorders, great care should be taken during history-taking and thorough physical examination as they still play important roles in the clinical diagnosis of the patient.

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History-Taking

Patients with parotid gland disorders usually *complain of* swelling, pain, xerostomia (dry mouth), foul taste, and occasionally sialorrhea (excessive salivation). Swelling and pain during meals followed by reduction in symptoms after meals may indicate partial stenosis of the duct. *Demographic data* (age / gender) are very important. The autoimmune disorder known as Sjogrin's syndrome, for example, is common in menopausal women while *mumps* usually occurs in children.

Medical profile of the patient may provide helpful clues to diagnosis. Gland dysfunction is often associated with certain systemic disorders such as diabetes mellitus (DM), atherosclerosis, hormonal imbalances and neurological disorders (Graamans, 1991; Mason, 1975). A careful *dietary and nutrition* history should not be neglected, for patients who suffer from chronic dehydration due to bulimia or anorexia or during chemotherapy are at risk for parotitis.

Drug history of the patient should also be considered, for salivary function is often affected by certain drugs such as diuretics and other anti-hypertensive drugs, which may cause xerostomia (Graamans, 1991; Mason, 1975). Since xerostomia is also a debilitating consequence of radiation therapy to the head and neck, history of *prior irradiation* should be sought.

For evaluation of a *parotid mass*, it is important to take history of the parotid mass duration, rate of growth and presence of pain, facial paralysis, cervical lymphadenopathy, eye and joint symptoms and irradiation exposure.

Physical Examination

Initial clinical evaluation involves careful examination of the head and neck regions. Both extra-oral and intra-oral examinations should be carried out in a systematic way to avoid missing any crucial signs. Bimanual palpation (extra-oral with one hand and intra-oral with the palmar aspects of the fingertips of the other) must be also performed to properly examine the submandibular glands.

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