

Summary

The salivary glands are divided into 2 groups: the major salivary glands and the minor salivary glands. The major salivary glands consist of the following 3 pairs of glands: the parotid glands, the submandibular glands, and the sublingual glands. The minor salivary glands comprise 600-1000 small glands distributed throughout the upper aerodigestivetrac. (*Gilbert J, Li Y, 2006*)

CT, MR, and ultrasound are the imaging modalities of choice with respect to the salivary glands. As a general rule, most radiologists recommend CT for inflammatory diseases and MR for the evaluation of tumors. In children, radiologists recommend ultrasound and MR: ultrasound for inflammatory or superficial disease, and MR for deeper masses. (*Isenman L, Liebow C, 1999*)

CT is the method of choice in patients suspicious for inflammatory disease (abscess, calculi, major salivary duct dilatation, and acute inflammation) or in patients with contraindication for MR imaging. For CT imaging both pre- and post-contrast studies must be performed in order to detect calcifications (pre-contrast) and enhancement pattern (post-contrast). Coronal and sagittal reconstructions can be helpful in the evaluation of perineural spread. (*Divi V, Fatt MA, 2005*)



The Multi Slice Ct is special because the detectors are in more row next to each other so the Ct canSalivary gland disorders are conditions that lead to swelling or pain in the saliva-producing tissues around the mouth.

The salivary glands may become inflamed (irritated) because of infection, tumors, or stones .The pathological lesions affecting the parotid gland are: Sialolithiasis., Sialadenitis, Sialadenosis, Parotid gland cysts, Neoplasms.*(Rogers J, McCaffrey TV2010)*

Sialolithiasis is a common cause of salivary gland disease. Stones occur as a result of calcification of an intra luminal organic mud such as dried secretion, bacterial colonies, or cellular debris. *(Costanzo, L. 2006)*

Salivary gland infections are somewhat common, and they can return in some people.

Viral infections such as mumps often affect the salivary glands (mumps most often causes parotitis). Mumps is a rare in Bacterial infections usually result from a blockage (such as salivary duct stones) or poor oral hygiene. They can be seen in people who are dehydrated and in the hospital. *(Rogers J, McCaffrey TV. 2010)*

The salivary gland tumors are relatively uncommon and represent less than 2% of tumors in human. About 65% to 80% of all salivary gland tumors arise in the parotid gland. 15% to 30% of tumors in the parotid gland are malignant. These tumors usually occur in adults. *(Tumors of the Salivary Glands" International Agency for Research on Cancer.Retrieved 2009)*

The most common type of salivary gland tumor is a slow-growing noncancerous (benign) tumor of the parotid gland that gradually increases the size of the gland. However, some of these tumors can be cancerous (malignant). Malignant salivary gland tumors are usually carcinomas. (*National Comprehensive Cancer Network: 2009*).

Diagnostic imaging of parotid gland has been revolutionized with the advent of cross-sectional imaging modalities like CT & MR imaging. CT and MR imaging greatly compliment physical and endoscopic examinations by direct visualization of previously blind areas and extension of the disease process in surrounding tissue planes.

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CT examination is the primary mode of imaging for infections of the parotid gland. Precontrast 3-mm axial images may help to identify calculi while contrast-enhanced CT scan is useful to distinguish sialadenitis from abscess. CT may reveal diffuse or focal enlargement of the gland with mixed density abnormalities. (*Gillespie MB, Intaphan J, Nguyen SA. 2011*)

Tumors of the salivary glands are uncommon and represent 2-4% of head and neck neoplasm.

Imaging findings usually depend on tumour size. Small tumours are more homogeneous. (*Divi V, Fatt MA, Teknos TN, Mukherji SK. 2005*)

Pleomorphic adenoma, is the most common tumour of the parotid gland and causes over a third of submandibular tumours. Salivary gland cancer is a rare form of cancer that begins in the salivary glands. (*Divi V, Fatt MA, Teknos TN, Mukherji SK. 2005*)

In conclusion, according to the clinical diagnosis as well as the plain film and ultrasonographic findings of parotid gland lesions we recommend CT and/or MRI to be the imaging modalities of choice for better localization and characterization of the different parotid lesions.