

Sialadenitis

Sialadenitis (*sialoadenitis*) is an inflammation of salivary glands (usually the major ones - the most common being the **parotid gland**, followed by **submandibular** and **sublingual glands**). It should not be confused with sialadenosis (sialosis) which is a non-inflammatory enlargement of the major salivary glands.

It may be acute or chronic, another classification divides different types of sialadenitis according to the origin (actual cause of the condition):

1. **Autoimmune sialadenitis (i.e Sjogren's syndrome);**
2. **Infectious sialadenitis**
 - bacterial;
 - viral;
 - others (syphilis, TBC, actinomycosis);
3. **Irradiation-induced sialadenitis**

Autoimmune sialadenitis

Most histological appearances of autoimmune sialadenitis are similar to that of **Myoepithelial sialadenitis**. In general, a diffuse to multinodular expansion is observed in myoepithelial sialadenitis. A distinguishing feature is the presence of epithelial-myoepithelial islands infiltrated by lymphocytes. Germinal centers may form with the progression of lymphoid infiltrate resulting in acinar atrophy. The proliferation of ductal epithelium-myoepithelium arises causing the obliteration of ductal lumina causing the formation of the epithelial-myoepithelial islands.

Autoimmune sialadenitis may also be one of the symptoms of **Sjögren's syndrome** as it comprises numerous conditions. In the presence of a susceptible genetic background, both environmental and hormonal factors are thought capable of triggering the infiltration of lymphocytes, specifically CD4+ T cells, B cells, and plasma cells, **causing glandular dysfunction in the salivary and lacrimal glands**. A lip/salivary gland biopsy takes a tissue sample that can reveal lymphocytes clustered around salivary glands, and **damage to these glands from inflammation**.

- clinical evidence typically comprises three symptoms: rheumatoid arthritis, xerophthalmia, xerostomia
- myoepithelial sialadenitis in a salivary gland poses a higher risk for the development of malignant lymphoma.
- biologic immunosuppressive drugs such as rituximab and belimumab that work via B-cell pathology are often used as well as corticosteroids
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Viral Sialadenitis

Acute Viral Sialadenitis

 For more information see *Mumps*.

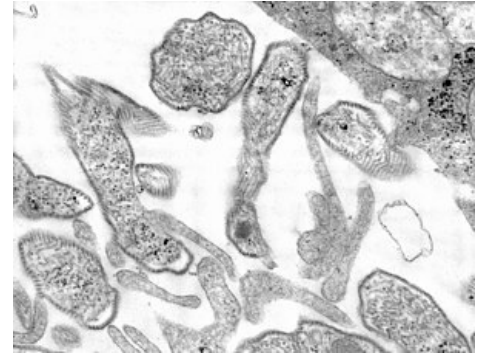
 For more information see *Parotitis epidemica*.

Generally, in acute bacterial and viral sialadenitis cases, the **lobular architecture of the gland is maintained** or may be slightly expanded. Areas of liquefaction, indicating the presence of an **abscess**, may also be seen microscopically. In Viral sialadenitis, vacuolar changes are seen in the acini with lymphocytic and monocytic infiltrate found in the interstitium.

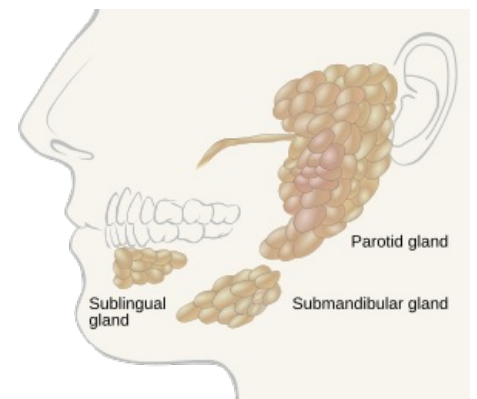
- Viral pathogens more commonly cause sialadenitis in comparison to bacterial pathogens. **Mumps** (*Paramyxovirus*) is the most common virus that affects the parotid and submandibular glands, with the parotid gland affected most often out of these two. Other viruses that have been shown to cause sialadenitis in both these glands include **HIV**, **coxsackie**, and **parainfluenza**. Classically, HIV parotitis is either asymptomatic or a non-painful swelling, which is not characteristic of sialadenitis.

Acute sialadenitis is characterised by increasingly, painful swelling of 24-72 hours, purulent discharge, and systemic manifestations.

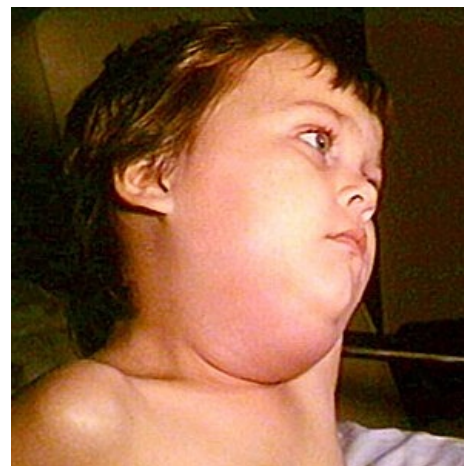
- usually present in childhood
- other tissues may be affected as well - such as CNS, testicles, ovaries, pancreas, or Cochlear nerve
- treatment is rather symptomatic



Mumps virions



Salivary glands



Mumps in a child

Bacterial Sialadenitis

Acute Bacterial Sialadenitis

Some common bacterial causes are *S. aureus*, *S. pyogenes*, viridans streptococci, and *H. influenzae*. In Acute bacterial sialadenitis, acinar destruction with interstitial neutrophil infiltrates is observed. Small abscesses with necrosis are common.

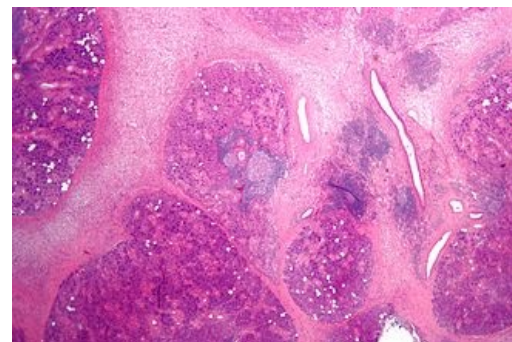
A unilateral or bilateral painful swelling of the parotid or submandibular regions may be present upon a physical examination. This could be accompanied by an external displacement of the earlobe usually adjacent to an inflamed parotid gland. Pus suppuration from major salivary gland duct openings may occur spontaneously or after manipulation of the affected gland. Mandibular trismus is a rare finding but may be present with larger swellings. Dysphagia may also be present in some cases.

- signs and symptoms: pain and discomfort, dysfunction of the infected salivary gland, saliva may be viscous and purulent, resistance to the glands is evident upon palpation
- the condition can be complicated by an abscess - surgical intervention
- treatment: sufficient rehydration, ATB

Chronic Bacterial Sialadenitis

Chronic sclerosing sialadenitis

Chronic sclerosing sialadenitis is a chronic (long-lasting) inflammatory condition affecting the salivary gland. Relatively rare in occurrence, this condition is benign, but presents as **hard, indurated and enlarged masses** that are clinically indistinguishable from salivary gland neoplasms or tumors. It is now regarded as a manifestation of IgG4-related disease. Involvement of the submandibular glands is also known as **Küttner's tumor**



Chronic sialadenitis

- Standard, and most effective, therapy to date is glandular sialadenectomy,

Chronic recurrent sialadenitis (*Morbus Payen; Parotitis recidivans*)

Chronic recurrent parotitis (CRP) is a nonspecific sialadenitis that is characterized by unilateral or bilateral preauricular swellings with either periodical episodes of swellings and remissions or persistent swelling of the involved gland.

The occurrence of chronic recurrent episodes may be due to underlying Sjogren's syndrome or ductal abnormalities. Prodrome of tingling in the gland preceding pain and swelling may be reported in such cases.

- mainly in children (age of 1-14)
- treatment includes ATB therapy

Irradiation-induced sialadenitis

Radioactive Iodine-Induced Sialadenitis is swelling of a salivary gland as a result of high radiation doses from cancer treatment, which causes inflammatory salivary gland disease.

The salivary glands often lie directly in the path or at the fringes of the irradiation field during radiotherapy of tumors in the head and neck region. As a result, changes may occur whose clinical and morphological picture may be summed up by the term radiation-induced sialadenitis

- **Stage I** is characterized by marked swelling and vacuolization of the serous glandular acini. Moderate atrophy of isolated glandular acini may be observed in several regions.
- Significant parenchymal reduction may be observed in **Stage II** as a result of atrophy of glandular acini. In addition to ectasia of the excretory ducts, one also observes moderate ductal proliferation. The dilated ductal lumina are filled with secretion. Moderate periductal fibrosis and significant lymphocytic infiltration are also observed.
- **Stage III** is characterized by high-grade parenchymal reduction. The periductal tissue exhibits extensive lymphocytic infiltrate. In addition to ductal ectasia, numerous ductal proliferations are now also found. A further increase in interstitial connective tissue results in a picture of the glandular transformation of the cirrhotic salivary gland type. Significant proliferation of the intima with the formation of vascular stenoses may be observed.

Treatment

Rather than accepting the salivary gland damage produced by ^{131}I (radioactive isotope), the use of sour candy, or lemon juice has been recommended to **increase salivation** during ^{131}I administration in an attempt to reduce salivary gland damage. These interventions increase salivary flow and thereby decrease both the transit time of ^{131}I through the parotid and the salivary ^{131}I concentration.

Links

Related articles

- Salivary Glands Diseases
- ORL diagnostics
- Saliva

Source

- BENEŠ, Jiří. *Studijní materiály* [online]. ©2007. [cit. 2009]. <http://jirben2.chytrak.cz/materialy/orl_jb.doc>.

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