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內文：

A. Introduction:

- Diseases of the salivary glands are rare in infants and children, except diseases such as parotitis epidemica(腮腺炎) and cytomegaly(細胞肥大病毒病).
- Swellings of the salivary glands may be caused by
 1. acute and chronic inflammatory processes,
 2. autoimmune diseases
 3. duct translocation due to sialolithiasis
 4. tumors of varying dignity.



B. Inflammatory

- According to these studies, important pathologies in these age groups
 1. acute and chronic sialadenitis
 2. chronic recurrent parotitis
 3. secondary inflammation associated with sialolithiasis
- Inflammatory salivary gland diseases, next to benign neoplasms, are the most frequent causes of salivary gland swelling in juvenile age.

◇ Acute

- The **acute** forms of sialadenitis are mainly caused by **viral or bacterial infections**
- Typical viral diseases are parotitis epidemica and cytomegaly.
- The predominant cause of parotid swelling in infancy is parotitis epidemica.發病高峰期:2~14歲之間
- In childhood, the parotid gland is most frequently affected by acute bacterial inflammation.Predominant among the bacterial pathogens are group A streptococci and Staphylococcus aureus.

- Acute inflammation of the parotid gland:
 1. 病源:Staphylococcus aureus,
 2. 發生在:neonates and in children with an underlying systemic disease
 3. 伴隨併發症:fever, dehydration, immunosuppression and general morbidity
- Acute inflammation of the submandibular gland:
 1. 病因:a congenital anomaly of a salivary duct or an excretory duct obstruction

◇ **Chronic**

- Chronic sialadenitis the predominant etiological factors:
secretion disorders and immunological reactions
- The pathogenesis of chronic recurrent parotitis has still not been completely elucidated and is, next to mumps, the most frequent sialadenitis in infancy.

C. Neoplastic changes

- Very rare in children and adolescents, compared to salivary gland inflammations. Their annual incidence in all juvenile age groups is 1 to 2 tumor cases in 100,000 persons.
- According to Eneroth:
 1. salivary gland tumors make up 0.3% of all human tumors
 2. less than 10% of all juvenile head and neck tumors are located in the salivary glands.
 3. Only 1% of all head and neck tumors originate in the salivary glands, regardless of patient age.

D. Sialadenitis and sialolithiasis

- Zenk et al. on 635 patients, only 6.1% of all patients with sialolithiasis of the cephalic salivary glands were younger than 20 years.
- Sialolithiasis is rarely observed in infants and adolescents. In a review covering a period of approximately 100 years,there were only 21 documented cases of sialolithiasis of the submandibular gland in children between 3 weeks and 15 years of age.

◇ **Chronic recurrent parotitis**

- Chronic recurrent parotitis is, next to mumps, the most common inflammatory salivary gland disease in childhood and adolescence
- There are conflicting opinions in the literature as to a possible connection:
 1. congenital, acquired or multifactorial inflammation-induced stenosis and

ectasia of the duct system

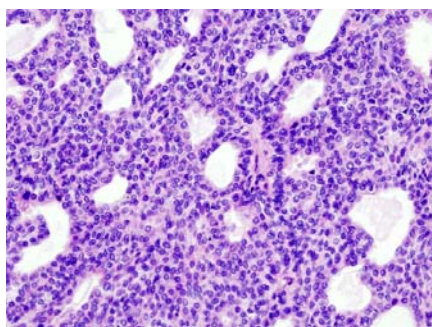
2. congenital duct anomalies
 3. post-infectious factors.
 4. In addition, the involvement of autoimmune processes has been suggested.
- Our analysis shows a peak incidence in the group of 5- to 10-yearold patients.
 - Follow-up and control examinations in short intervals are desirable in all patients with successful initial conservative treatment to detect early signs of recurrent parotitis by clinical and ultrasound examinations.
 - We stress the importance of total parotidectomy when inflammatory episodes recur frequently as the only expedient option in cases of drug resistance. All of our surgically treated patients have remained free of complaints. The literature reports lasting success rates of 80 to 100%.
 - Specific mention must be made of the risk of temporary facial paresis and of the development of Frey's syndrome.

E. Tumors of the salivary glands

- Lesions of the major cephalic salivary glands, with the exception of mumps and cytomegaly, are unusual in children and adolescents and may give rise to a number of different tentative diagnoses.
- Malignant salivary gland tumors are relatively more frequent in young person's than in adults. According to Ussmüller et al. about one half of all juvenile salivary gland tumors may be malignant tumors.

✧ Benign Neoplasms

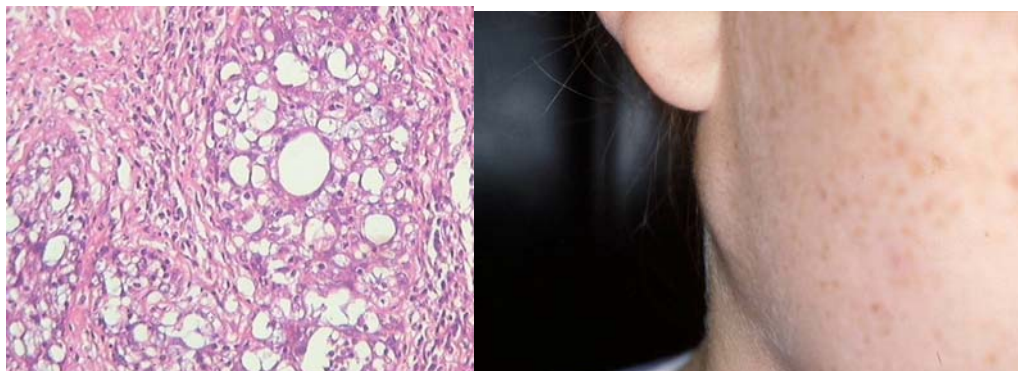
- Castro et al. found among 2135 cases, 38 young patients between 5 and 16 years with salivary gland tumors, corresponding to an incidence of only 1.8%.
- Due to our own studies there were 40 patients with benign lesions, 79% of which were localized in the parotid gland, with a predominance of pleomorphic adenomas (60%) in the age range investigated.
- This is in accordance with a number of other reports. Luna et al., too, state that pleomorphic adenomas are the most frequent benign epithelial tumors in childhood.



- Other teams, however, saw a majority of nonepithelial neoplasms, haemangioma and lymphangioma , in the group of benign growths.
- Another study the non-epithelial tumors were the most frequent benign neoplasms in the parotid region (50%) in newborns and infants.
- We saw 66.6% of non-epithelial tumors (haemangioma, haemangiolympoma) in infants. Eneroth und Hjertman found 75-85% of all benign lesions in the parotid, and 10% in the submandibular gland. This is very similar to our observations (parotid gland: 92.5%, submandibular gland: 7.5%).
- Pleomorphic adenoma, due to its high incidence clinically the most important tumor for the development of surgical approaches. Parotidectomy, we saw tumor recurrences in 80% of cases following enucleation alone. This result resembles that of another study which reported an incidence of 20-45% of recurrences after enucleation.
- According to Leverstein et al. most recurrences arose from inadequate operation techniques.
- Enucleation carries the risk of tumor cell transfer, respectively incomplete tumor removal, since a large percentage of pleomorphic adenomas are not completely encapsulated or are enveloped only by a thin layer of connective tissue.
- When using operation microscope-based techniques at our clinic, recurrences were virtually absent after primary operations. The therapy of pleomorphic adenoma consists of lateral parotidectomy with en-bloc excision of the tumor within the surrounding tissues, preserving facial nerve integrity.
- The important first preoperative diagnostic step in young patients is sonographic examination of the parotid region. Fineneedle aspiration biopsy.

✧ **Malignant Neoplasms**

- In childhood 80-90% of all malignant lesions of the salivary glands are made up by mucoepidermoid carcinomas , adenoid-cystic carcinomas and acinic cell carcinomas.
- In the age range studied by us, 50% of all salivary gland tumors are malignant if haemangiomas and lymphangiomas are not included.



- Many publications agree that mucoepidermoid carcinoma is the most abundant malignant salivary gland tumor in young patients.
- Salivary gland malignancies we found 33.3% of mucoepidermoid carcinomas, followed in frequency by 25% each of adenoid-cystic carcinomas and embryonic rhabdomyosarcomas.
- The characteristic and determining factor in the group of adenoid-cystic carcinomas is their perivascular and perineural tendency.
- Our surgical concept and our favorable long-term results show that total or radical parotidectomy, sometimes including extended resection of neighbouring structures, is the best therapy for malignant parotid tumors in children, with relatively few complications throughout the follow-up period.
- No statement can be given about the outcome of radiation therapy because none of the patients in our investigation received it. However, for the establishment of an individual concept of oncological therapy (parotidectomy, neck dissection, chemotherapy, radiotherapy), interdisciplinary cooperation with the pediatrician is mandatory.

F. Conclusion

- Salivary gland diseases are rare in infants and children.
- Acute and chronic sialadenitis not amenable to conservative therapy requires surgical treatment.
- The clinical course of chronic recurrent sialadenitis in children has a great potential for spontaneous healing, but in a number of cases it does not permit waiting for spontaneous healing until puberty but requires surgical intervention.
- As these diseases are rarer in young people than in adults, it is difficult to establish universally valid therapeutic guidelines.
- Parotid malignancies which are more frequent in young persons.

題號	題目
1	腮腺(Parotid gland)最常出現的良性腫瘤是? (A) Pleomorphic adenoma (B) Warthin tumor (C) Oncocytoma (D) Basal cell adenoma
答案 (A)	出處：Oral and maxillofacial pathology-3 rd edition p.474~477
題號	題目
2	在小唾液腺中，最常出現的惡性腫瘤是哪一個? (A) Acinic cell adenocarcinoma (B) Adenoid cystic carcinoma (C) Mucoepidermoid carcinoma (D) Malignant mixed tumor
答案 (C)	出處：Oral and maxillofacial pathology-3 rd edition p.474~477