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Salivary Gland Tumours

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REDEFINING MEDICINE, TRANSFORMING HEALTHCARE

Which salivary glands are most commonly affected by tumours?

Site	% Frequency	% Malignant
Parotid	**73**	**15**
Submandibular	11	37
Sublingual	0.3	86
Minor glands	14	46

Eveson JW, Cawson RA. Salivary gland tumours. A review of 2410 cases with particular reference to histological types, site, age and sex distribution. J Pathol. 1985;146:51-58.

What are the different histological types of salivary gland tumours?

WHO classification of SG tumours 2005

- 5 broad groups:
  - Malignant epithelial tumours
  - Benign epithelial tumours
  - Soft tissue tumours
  - Hematolymphoid tumours
  - Secondary tumours

Malignant Salivary Gland Tumours

- Acinic cell carcinoma
- Mucoepidermoid carcinoma
- Adenoid cystic carcinoma
- Polymorphous low-grade adenocarcinoma
- Epithelial-myoepithelial carcinoma
- Clear cell carcinoma, not otherwise specified
- Basal cell adenocarcinoma
- Malignant sebaceous tumors
- Cystadenocarcinoma
- Low-grade cribriform cystadenocarcinoma
- Mucinous adenocarcinoma
- Oncocytic carcinoma

- Salivary duct carcinoma

- Adenocarcinoma, not otherwise specified

- Myoepithelial carcinoma

- Carcinoma ex pleomorphic adenoma

- Carcinosarcoma

- Metastasizing pleomorphic adenoma

- Squamous cell carcinoma

- Small cell carcinoma

- Large cell carcinoma

- Lymphoepithelial carcinoma

- Sialoblastoma

Mucoepidermoid CA

- Clinical:
- 30% of parotid malignancies (Most common)
- Peak 20 – 40 yrs old
- Presents with painless lump.
- More advanced tumours – pain, facial palsy

- Histo:
- 2 cell types – mucinous and epithelial cells
- 3 grades – Low, intermediate, high grade
  - Low grade – More mucinous
  - Intermediate – Mixed mucinous and epidermoid
  - High-grade – More epidermoid. Can be mistaken for SCC

Mucoepidermoid CA

- Prognosis:
- Histo grade affects prognosis (5-year survival):
  - Low grade – 75 – 95%
  - High grade – 5%

- Overall 10 yr survival = 50%

Acinic cell ca

- Clinical:
- 10-15% of parotid malignancies
- Even distribution between 20 – 70yrs old
- Women > Men
- Presents with lump. 30% has pain. <10% facial palsy.
- Can present bilateral or multicentric.

- Histo:
- Serous acinar cell differentiation, polygonal cells
- Stains positive for zymogen granules and cytokeratin
- Surrouding dense fibrous tissue
- Low-grade: resembles mature salivary lobule
- High-grade: resembles embryonic acini

Acinic cell ca

- Prognosis:
- 35% recurrence
- Mets first to cervical nodes then to lungs
- Radiosensitive
- 5-year survival 90%
- 10-year survival 70%

Adenoid cystic ca

Clinical:

Unpredictable tumour – can stay indolent / grow slowly for years with sudden growth spurt / metastasis

No sexual predilection

40-60yrs old

Presents with pain before lump. CN VII rarely involved.

Histo:

Adenoid-type cells. Classically with cystic microscopic appearance.

3 histologic types: Cribiform, Tubular, Solid

Tubular – best prognosis

Solid – most aggressive, worst prognosis

Adenoid cystic ca

- Prone to perineural spread, may have skip lesions
- Negative margins not equate local eradication
- Radiation-sensitive
- Distant mets (commonly lung) more often than regional nodal involvement.

- <u>Prognosis:</u>
- 5-year survival 35%
- 10-year survival 20%

Malignant mixed tumour

- Has both epithelial and mesenchymal elements
- Called "carcinoma ex-pleomorphic adenoma" if arises from pleomorphic adenoma
- Can also derive de novo – Carcinosarcoma (Rare, highly lethal)
- Clinical:
- 10% of parotid malignancies
- Male > Female
- 10 – 20yrs older than pts with benign mixed tumours
- Presents with lump, may have sudden growth spurt
- 30% has pain or facial palsy

Malignant mixed tumour

- Prognosis:
- Dependent on local invasion:
- < 8mm extracapsular spread – 90-100% 5-year survival
- >8 mm extracapsular spread – <50% 5-year survival

- Carcinosarcoma confers poor prognosis

Epithelial-myoepithelial ca

- Clinical:
- Rare. Commonest in parotid.
- 60 – 80 yr old
- Presents with painless mass

- Histo:
- Epithelial cells surrounded by myoepithelial cells.
- Disorderly, infiltrative.
- Immunohistochem is useful – CK for myoepithelial cells
- Perineural invasion may be seen

Epithelial-myoepithelial ca

- Prognosis:
- 50% local recurrence
- 25% has distant metastases
- But overall mortality is not high

Adenocarcinoma

- Least common form of SG malignancy
- Derived from glandular epithelial cells
- Various types – Polymorphous low-grade adenoCA, AdenoCA-NOS etc.

- Prognosis dependent on type, grade and invasiveness
- 1/3 has nodal or distant mets on diagnosis
- Overall 5-year survival 19-75% dpt on grade

Salivary duct carcinoma

- Clinical:
- Older than 40yrs of age
- Male > female
- Presents with painful lump

- Histo:
- High-grade aggressive malignancy from excretory ducts
- Histologically-similar to breast ductal carcinomas

Salivary duct carcinoma

- Prognosis:
- Poor prognosis:
- MD Anderson study: High rate of local recurrence , LN involvement (73%) and distant mets(43%)
- 2/3 die within 3-4 years of diagnosis

Lymphoma

- Clinical:
- Elderly males (like Warthin's)
- Firm rubbery painless lump
- Found in 5-10% of Warthin's tumour

- Histo:
- May arise from intraglandular LN (intra-nodal) or from lymphoid tissue dispersed within gland (extra-nodal, MALT).
- 90% of SG lymphoma occur in parotids because of abundant lymphoid aggregates
- Predominantly Non-Hodgkin Lymphoma (85%)
- Assoc with Sjoren's syndrome (44 x population risk)

How do you manage a patient with a parotid mass?

- History – key points?
- Examination
  - Facial nerve function
  - Otoscopy
  - Nasal endoscopy
- FNA?
- What imaging?
  - CT for neck nodes
  - MRI for perineural invasion

Surgery for salivary gland malignancies

- Adequate parotidectomy for all tumours with negative margins
- 2 cm margins for aggressive tumours
- Total parotidectomy (taking deep lobe) and selective upper neck dissection (I-III) for the following histological types:
  - High grade mucoepidermoid
  - SCC
  - Ca ex-pleomorphic adenoma
  - Anaplastic cancers
- Facial nerve?
  - Preserve if functioning pre-operatively
- What do you do if you have to resect facial nerve?
  - Cable graft
- How about N+ disease?
  - Modified radical neck dissection

Which patients should get adjuvant RT?

- High grade tumours
- 4 cm rule - > 4 cm
- Residual or recurrent disease
- Adenoid cystic carcinoma

THANK YOU!