

Tumours of the salivary glands in northeastern China: a retrospective study of 2508 patients

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Abstract

Little information has been published in English about the epidemiology of tumours of the salivary glands in northeastern China. From August 2004 to March 2014, 2508 cases of primary epithelial salivary gland tumours were diagnosed in the Department of Oral and Maxillofacial Surgery, the Affiliated Stomatology Hospital of China Medical University. Tumours were analysed according to their histological type and site, and the age and sex of the patients. Ages ranged from 5 to 98 years, with a slight propensity in favour of men. The peak incidence was in the sixth decade for both sexes. The mean (SD) ages were 48 (16) years when the tumour was benign and 51 (15) years when it was malignant. The parotid gland and palate were the sites most commonly affected. There were 1934 (77.1%) benign and 574 (22.9%) malignant tumours, with the most common histological types being pleomorphic adenomas and mucoepidermoid carcinomas. A lesion that arises from the floor of the mouth (92.8%) or the tongue (86.2%) is more likely to be malignant than those from other minor salivary glands.

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Introduction

Tumours of the salivary glands are heterogeneous lesions with complex clinicopathological characteristics and distinct biological behaviour.¹ Neoplasms that originate from the salivary glands are relatively rare, and account for between 3% and 10% of all reported tumours of the head and neck.² The estimated global incidence ranges from 0.4

to 13.5 cases/100,000 annually.³ The incidence of malignant tumours of the salivary gland varies from 0.4 to 2.6 cases/100,000 inhabitants.⁴ In China, they account for only about 2% of human tumours,⁵ and about 5% of all malignant tumours in the head and neck region,^{6,7} with an incidence of 1.0/100,000 person/year. Currently WHO recognises 13 benign and 24 malignant tumours of the salivary glands,⁸ which may arise from the major (parotid, submandibular, and sublingual) or the minor glands, located beneath the mucosal lining of the upper aerodigestive tract.

Worldwide epidemiological studies^{1–3,9–17} have shown geographical variations in the relative incidence, with discrepancies among clinicopathological aspects. However, we know of little available information published in English about such tumours in northeastern China.

The aim of this study was to find out the relative frequency and distribution of the various types in northeastern

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Table 1
Benign salivary gland tumours in all the salivary glands.

Diagnosis	No.	Percentage of all tumours	Percentage of the group	Male	Female	M:F ratio	Age range (years)	Mean (SD) age (years)
Pleomorphic adenoma	1032	41.15	53.36	429	603	0.71	5–98	43 (15)
Warthin's tumour	471	18.78	24.35	400	71	5.63	9–86	58 (11)
Basal cell adenoma	213	8.49	11.01	63	150	0.42	29–86	55 (12)
Myoepithelioma	192	7.65	9.93	75	117	0.64	15–82	46 (15)
Cystadenoma	12	0.48	0.62	7	5	1.40	11–79	51 (18)
Oncocytoma	8	0.32	0.41	2	6	0.33	41–74	57 (10)
Ductal papilloma	5	0.20	0.26	2	3	0.67	36–72	56 (13)
Sebaceous lymphadenoma	1	0.04	0.05	1	0	∞	68	–
Total	1934	77.11	99.99	979	955	1.03	5–98	48 (16)

Table 2
Malignant tumours in all the salivary glands.

Diagnosis	No.	Percentage of all tumours	Percentage of group	Male	Female	M:F ratio	Age range (years)	Mean (SD) age (years)
Mucoepidermoid carcinoma	160	6.38	27.9	62	98	0.63	14–87	45 (15)
Adenoid cystic carcinoma	120	4.78	20.9	45	75	0.60	12–89	55 (14)
Acinic cell carcinoma	84	3.35	14.6	39	45	0.87	14–86	48 (16)
Myoepithelial carcinoma	37	1.47	6.5	21	16	1.31	24–82	54 (15)
Salivary duct carcinoma	32	1.27	5.6	29	3	9.67	40–79	59 (12)
Carcinoma ex pleomorphic adenoma	26	1.04	4.5	15	11	1.36	38–81	55 (12)
Adenocarcinoma not otherwise specified	23	0.92	4.0	18	5	3.60	42–80	59 (12)
Squamous cell carcinoma	19	0.76	3.3	14	5	2.80	46–88	65 (12)
Polymorphous low-grade adenocarcinoma	16	0.64	2.8	8	8	1.00	31–75	50 (13)
Cystadenocarcinoma	15	0.60	2.6	11	4	2.75	19–79	61 (17)
Basal cell adenocarcinoma	13	0.52	2.3	8	5	1.60	40–75	61 (11)
Clear cell carcinoma	10	0.40	1.7	6	4	1.50	21–70	52 (14)
Lymphoepithelial carcinoma	7	0.28	1.2	4	3	1.33	33–76	54 (16)
Sebaceous carcinoma	4	0.16	0.7	3	1	3.00	18–63	42 (20)
Epithelial-myoepithelial carcinoma	3	0.12	0.5	1	2	0.50	34–61	51 (15)
Oncocytic carcinoma	2	0.08	0.4	1	1	1.00	43–58	50 (11)
Large cell carcinoma	1	0.04	0.2	0	1	∞	83	–
Small cell carcinoma	1	0.04	0.2	1	0	∞	44	–
Carcinoma ex sebaceous lymphadenoma	1	0.04	0.2	0	1	∞	53	–
Total	574	22.89	100	286	288	0.99	12–89	51 (15)

Table 3
Location and histological type of 1934 benign salivary gland tumours. Data are number (%) of tumours.

Diagnosis	Major glands			Minor glands							
	Parotid	Submandibular	Sublingual	Palate	Lips	Buccal mucosa	Tongue	Floor of mouth	Larynx	Gingiva	Retromolar
Pleomorphic adenoma	681	174	1	151	5	12	1	1	4	1	1
Warthin's tumour	462	7	0	0	0	1	1	0	0	0	0
Basal cell adenoma	204	2	0	3	0	1	1	0	2	0	0
Myoepithelioma	108	14	0	61	1	6	1	0	1	0	0
Cystadenoma	7	3	0	1	0	0	0	0	1	0	0
Oncocytoma	8	0	0	0	0	0	0	0	0	0	0
Ductal papillomas	0	0	0	3	0	1	0	1	0	0	0
Sebaceous lymphadenoma	1	0	0	0	0	0	0	0	0	0	0
Total	1471 (76.1)	200 (10.3)	1 (0.05)	219 (11.3)	6 (0.3)	21 (1.1)	4 (0.2)	2 (0.1)	8 (0.4)	1 (0.05)	1 (0.05)

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