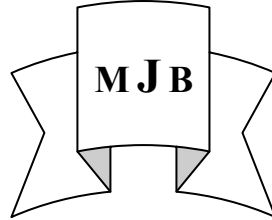


Salivary gland lesions in Babil: clinicopathological study

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Abstract

During 5 years period (2005 – 2010) sixty six salivary gland biopsies done for patients from babil, male : female ration was 1.4:1. Those lesions dividing into (inflammatory 24 case, benign tumor 35 case, and malignant tumors 7 cases), the most benign lesion was pleomorphic adenoma with 68.8% of all salivary gland tumors, while both mucoepidermoid and adenoid cystic carcinoma rank first sharing same percentage (4.76 %) among all salivary gland tumors. Parotid gland was the most common site for salivary gland biopsies 63.6%, and the 3rd – 4th decade of life was the most affected age for both inflammatory and benign salivary gland lesions while the 5th – 6th decade of life was the common age group for malignant tumors. All those figures were comparable to other Iraqi studies done for same field, and also to the most published reports from other countries.

آفات الغدد اللعابية في بابل : دراسة نسيجية وسريية

الخلاصة

دراسة استرجاعية لستة وستون خزعة نسيجية من الغدد اللعابية والتي اجريت لمرضى من محافظة بابل للفترة من عام ٢٠٠٥ – ٢٠١٠ حيث تم تحليل السجلات الطبية الخاصة بهؤلاء المرضى مع مراجعة وتصنيف الأشكال المرضية الخاصة بهم. وقد أظهرت النتائج أن عدد المرضى من الذكور يفوق عدد المرضى من الإناث بنسبة بسيطة (١,٤ : ١) وكانت عدد الحالات الالتهابية ٢٤ حالة و حالات الأورام الحميدة ٣٥ حالة في حين كان عدد الأورام الخبيثة سبعة حالات فقط. كما وجدت الدراسة بان الغدة النكافية هي الغدة الأكثر إصابة من بين باقي الغدد اللعابية الأخرى ونسبة ٦٣,٦ % . تركزت الإصابات الالتهابية والأورام الحميدة للمرضى في العقدين الثالث والرابع من العمر في حين تركزت الأورام الخبيثة في الأعمار المتقدمة وخاصة في العقدين الخامس والسادس من العمر. تم تحليل ومقارنة هذه النتائج مع نتائج دراسات أخرى أجريت على أمراض الغدد اللعابية في العراق وفي بلدان عربية وأجنبية عديدة. وكان الاستنتاج هو إن أنواع وخصائص أمراض الغدد اللعابية للمرضى مجال البحث قد جاءت في العموم مشابهة لنتائج الدراسات المماثلة والتي أجريت في مناطق أخرى من العراق وكذلك العديد من الدول العربية ، الإقليمية و الغربية من حيث أنواع آفات الغدد اللعابية ، أماكن هذه الآفات ، أعمار المرضى وأجناسهم.

Introduction

Accounting for less than 2% of all human neoplasms, and 7% of head and neck neoplasms, salivary gland tumors are relatively uncommon. Their clinical importance, however, far outweighs their relatively low frequency, due to their confounding histological and behavioral diversity as well as their proximity to important head / neck structures that pose considerable

clinical management challenges[1]. Although a variety of etiological factors (radiation, race, smoking, chronic sialadenitis, diet, and specific genetic abnormalities), have been implicated in some salivary tumors, most salivary gland neoplasms are idiopathic making it difficult to explain the striking epidemiological differences in their global distribution[2,3].

Materials and Methods

This is an five-year duration (2005-2010) retrospective study of all salivary gland biopsies received at Al-hilla teaching hospital and private histopathology laboratories in Al- hilla city, the related data including (age, sex, patient address and lesion site) were obtained from laboratory records derived from information provided in histopathology request forms. All paraffin-embedded sections for those cases obtained and slides prepared using the (hematoxylin and eosin) routine stain for light microscope examination. All histology slides were reviewed by the author, and classified according to the World Health Organization (WHO) histological typing for salivary tumors. Cases divided according to age in groups with ten years interval into 6 groups, then the data analyzed by using Chi square at power α 0.05 (using SPSS V 17 software) to find the statistical significant relationship between different salivary gland lesions and the sites, and then between salivary gland lesions and the age groups. Then (mode, median and mean) were calculated to the affected age groups.

Results

During the span of 5 years between (Oct.2005 – Oct.2010), sixty six cases of salivary gland biopsies were analyzed, of which 39 cases (59%) were male and 27 cases (41%) female, with a slight male predominance (male :female ration = 1.4:1). Inflammatory lesion represented 38.2 % of all cases and the rest (61.8%) were neoplastic, those neoplastic lesions divided as (83.33%) benign and (16.66%) malignant. 63.63 % of biopsies were from the parotid gland, 30.3% from the submandibular glands and the rest 6.1% were from the minor salivary glands. The most common benign neoplasm was pleomorphic adenoma that represent (68.8%) among all salivary gland neoplasms and also represent 77.1% from benign salivary gland tumors, while the top of the list among malignant tumors of salivary glands shared equally between adenoid cystic carcinoma and mucoepidermoid carcinoma in a (28.5%) for each. We analyze the incidence and distribution of all types of salivary gland lesions in our series, and provide data for comparison with other epidemiological studies.

Table 1 distribution of benign tumors according to site

Benign tumors	Parotid	Submandibular	Sublingual And minar salivary glands	Total
Pleomorphic adenoma	21	5	1	27 (77.1%)
Warthin tumor	4	0	0	4 (11.4%)
Basal cell adenoma	1	0	1	2(5.7%)
Others	2	0	0	2 (5.7%)
Total	28	5	2	35 (100%)

Table 2 distribution of malignant tumors according to site.

malignant tumors	parotid	submandibular	Sublingual And minar salivary glands	Total
Adenoid cystic	0	0	2	2 (28.5%)
Mucoepidermoid	1	1	0	2 (28.5%)
Large duct adenocarcinoma	1	0	0	1 (14.5%)
Acinic cell tumor	1	0	0	1 (14.5%)
Malignant mixed cell tumor	1	0	0	1 (14.5%)
Total	4	1	2	7 (100%)

Table 3 distribution of salivary gland lesions according to site.

Site	Inflammatory	Benign	Malignant	Total
Parotid	9 (21.42%)	29 (69.04%)	4 (9.52%)	42 (63.6%)
Submandibular	14 (70%)	5 (25%)	1 (5 %)	20 (30.3%)
Sublingual & minar salivary	1 (25%)	1 (25%)	2 (50%)	4 (6.1%)
Total	24	35	7	66 (100%)

P<0.0001 (So there is a strong statistical relationship between the type of salivary gland lesions and the site of those lesions).

Table 4 distribution of salivary glands lesions according to age groups.

Age (year)	Inflammatory	Benign	Malignant
10 – 20	0	2 (5.71%)	0
21 -30	4 (16.66%)	10 (28.57%)	0
31 – 40	10 (41.66%)	11 (31.42 %)	1 (14.28%)
41 – 50	8 (33.33%)	7 (20%)	1 (14.28%)
51 – 60	2 (8.33%)	3 (8.57 %)	2 (28.57%)
More than 61	0	2 (5.71%)	3 (42.85%)
Total	24(100%)	35(100%)	7(100%)

$P < 0.05$ (So there is a statistical relationship between the salivary gland lesions and the age since the inflammatory and benign lesion seen in young age groups while the malignant lesions seen more in middle and old age groups).

The third decade of life represent the (mode, median and mean) for

Discussion

For neoplastic lesions the benign : malignant ratio in this study was 5:1, The ratios from similar studies in Iraq show same results in Baghdad(1987) [4] , while figures from (Basra, and Musal) gave slightly higher percentage for malignancy (29 % in Basra and 27.6% from Mosul) [5,6], the other countries figures ranged from 1.34:1 in China [7] , 1.6:1 in India [8] , 2.33:1 in Jordan [9] , 3.16:1. in turkey, 4:1 in Brazil [11, 12], and 5.36:1 in the USA [13]. Discrepancies may be explained by the geographic differences, the genetic background of the patients, and differences in exposure to etiological factors furthermore the central bias may affect the data.

Pleomorphic adenoma was the most commonly encountered type of salivary gland lesion in this study, which represent 41% of all analyzed cases, and 64.2% of salivary gland neoplasms, which is in agreement with findings from all of the published literature in Iraq and from all over the world [1,3-15].

Mucoepidermoid carcinoma and adenoid cystic carcinoma was most common salivary gland tumors. Reports according to the prevalence of malignant salivary gland tumor was various. In Baghdad Mucoepidermoid carcinoma rank first among all malignant tumors of salivary glands [4] , while in Basra and Mosel the adenoid cystic carcinoma occupy the first position among all malignant

inflammatory lesions and benign tumors of salivary glands, while the fifth decade of life represent the (mean and median) for malignant salivary gland tumors, and above 61 years were the mode age group for those malignant salivary gland tumors.

salivary glands tumor [5,6]. The most figures from other countries were comparable with those result of Baghdad , in which mucoepidermoid carcinoma rank first among all other types of malignant tumors [7,8,11,15-17].

All studies give a lower percentage to acinic cell tumor which represent 14.5 % of malignant tumors in our study, however same figures for acinic cell tumor observed in Basra (15% of malignant tumors), and also in Saudi Arabi(12.5 %). this discrepancy might be due to the small number of malignant tumors included in this study and also to centers bias and geographic distributions.

Parotid gland represent most common site for salivary gland tumors in a percentage equal to 57.5% , this result is similar to findings of Iraqi studies in Baghdad (62.2)%, Basra (56.2%) and slightly higher figure in Musal (72.2%). Parotid gland rank first among other salivary gland in harboring neoplasms in most of the published reports .

The average age at the time of diagnosis for salivary gland neoplasms was 40 years and ranged from 19-72. The Same figures obtained Iraqi studies [4-6] and other world reports were those of Al-Khateeb et al. [10] [40 years], Li et al.[7] [41.38 years], Subhashraj [8] [46 years], Masanja et al. [15] [48 years], and Kayembe et al. [17] (34 years).

There was a overall male predominance, with a male to female

ratio of 1.4:1. This finding coincides with figures from Basra , Mosul and Baghdad, and with some reports of neighbors countries[6,8, 15, 17, 19], but differs from the other studies that show a slight female predominance for salivary gland tumors. [1,9,11,12, 21]. Submandibular gland was the most common site for inflammatory lesions among all other salivary glands, the anatomical location of this gland which might lead to clinical confusions with cervical lymphadenitis, and submandibular sialadenitis secondary to calculi usually presents earlier than inflammatory process in parotid gland and requires early intervention both of those reasons may explain frequent surgical biopsies taken on background of inflammatory process from submandibular salivary gland [22].

Conclusion

Pattern of salivary gland tumors were found to have similar characteristics with patients of other western and Arabic countries regarding the tumor type, tumor site distribution, age and sex of patients.

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