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Original Article

Frequency of adnexal tumors. A retrospective analysis

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Abstract

Background Adnexal (appendageal) tumors are lesions with a wide range of varieties and differentiation iaffecting hair follicles, sebaceous, apocrine and eccrine glands.

Objective To report the frequency of different types of adnexal tumors, their clinical manifestations, average frequency in terms of sex and age, and correspondence between clinical diagnosis and pathological reports.

Patients and methods This retrospective study investigated 75 cases of adnexal tumors with clinical and pathological details in Hazrat-e-Fatemeh Hospital, Tehran over the past 11 years. The relative incidence of the lesions, sex and age frequency, location of the lesions and correspondence between clinical diagnosis and pathological findings was determined.

Results Overall incidence rate was 1.8% with an average age of 33.56 years. The incidence rate in terms of sex did not show a significant difference except in some specific lesions. Concerning tumor type, the most common tumor among females and males was sebaceous nevus (33.3%). Trichilemmal cysts (16%) and pilomatricoma (14.7%) were ranked second and third, respectively. The location of the lesion was mostly found to be in the head and neck areas (70.7%). In 13%of the cases, clinical diagnosis corresponded to pathological findings.

Conclusion Adnexal tumours are relatively rare. Sebaceous nevi, pilomatricoma and trichilemmal cysts were the common tumours but exhibited poor clinico-pathological correlation.

Key words
Adnexal tumor, clinical diagnosis, incidence

Introduction

Benign adnexal tumors are divided into four groups showing different kinds of differentiation: follicular, apocrine or eccrine sweat glands and sebaceous differentiation. Difficulty in diagnosis arises from a wide variety of lesions and high frequency of lesions with two or more kinds of differentiation.[1]

On the other hand these tumors can be divided into 3 groups according to the degree of decrease in differentiation: 1) benign, non-neoplastic lesions including hyperplasia, cysts and hamartoma, 2) benign neoplasms, and 3) malignant neoplasms. In the first group lesions with follicular differentiation such as hair follicle nevus, with sebaceous differentiation such as

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sebaceous nevi and sebaceous hyperplasia and with eccrine differentiation such as eccrine nevi are included. The second group includes lesions of follicular differentiation such as trichoepithelioma, trichofolliculoma, trichilemmal cyst and pilomatricoma; of sebaceous differentiation such as sebaceous adenoma and sebaceoma; of apocrine differentiation such as hidradenoma papilliferum; and of eccrine differentiation such as syringoma, chondroid syringoma, eccrine spiradenoma and eccrine cylindroma.[1,2,3]

Since there has not been a detailed report of the frequency of benign types of adnexal tumors, clinical manifestations, average frequency in terms of sex and age, and correspondence between clinical diagnosis and pathological reports, we planned to carry out the present study to determine the relative incidence of the lesions, sex and age frequency, location of the lesions and correspondence between clinical and pathological findings.

Patients and methods

This retrospective, observational case series study was done on the patients referred to pathology department of Hazrat-e-Fatemeh Hospital, Tehran, Iran, within the last 11 years (1994-2005). All the patients had already undergone biopsy because of nevus, mass, cyst, etc and were recognized as benign adnexal lesion according to pathological reports. Going through the patients' medical history, data regarding sex, age, type of lesion, location of lesion and correspondence between clinical and pathological findings was gathered and statistically analyzed.

Results

75 out of 4222 cases referred between 1994 and 2005 were pathologically diagnosed as benign adnexal tumors. Thus the incidence of adnexal tumours was found to be 1.8%. The age of the patients ranged from 6 to 80 years with an average of 33.56 years. The incidence rate in terms of sex showed no significant difference (**Figure 1**).

Table 1 enlists the frequency of different adnexal tumours. They were ranked as sebaceous nevus (33.3%), trichilemmal cyst (16%), pilomatricoma (14.7%), sebaceous cyst (8%), trichoepithelioma (5.4%), syringoma (4%), chondroid syringoma (2.7%), adnexal tumors with sebaceous differentiation (2.7%), and eccrine hidradenoma (2.7%). Sebaceous hyperplasia, adnexal tumors with apocrine differentiation and one report of malignant eccrine tumor were ranked last. Benign tumours were more frequent than malignant counterparts.

Regarding the location, most lesions were found in head (41.33%), face (8%), forehead (6.7%), eyelids (5.3%), neck (4%), arms (4%), eyebrows (2.7%), elbows (2.7%), lips (2.7%), and in 4 cases the location of the lesions was not mentioned by the physician (**Figure 2**).

Amongst the provided clinical data, nevus was the most common clinical diagnosis labeled in 20% of cases. However, it must be noted that nevus is a general term used for any hamartoma. Other clinical diagnoses were sebaceous nevi 9 (16%), sebaceous cyst (9.3%), wart (4%), dermoid and epidermal inclusion cyst (4%); and scars,

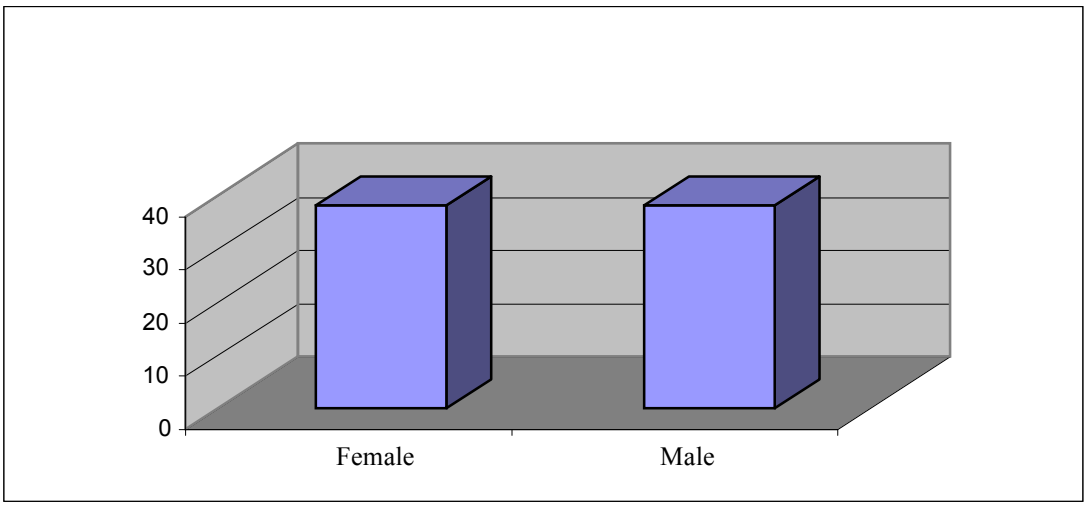

Figure 1 Incidence of adnexal tumours in male and female patients.

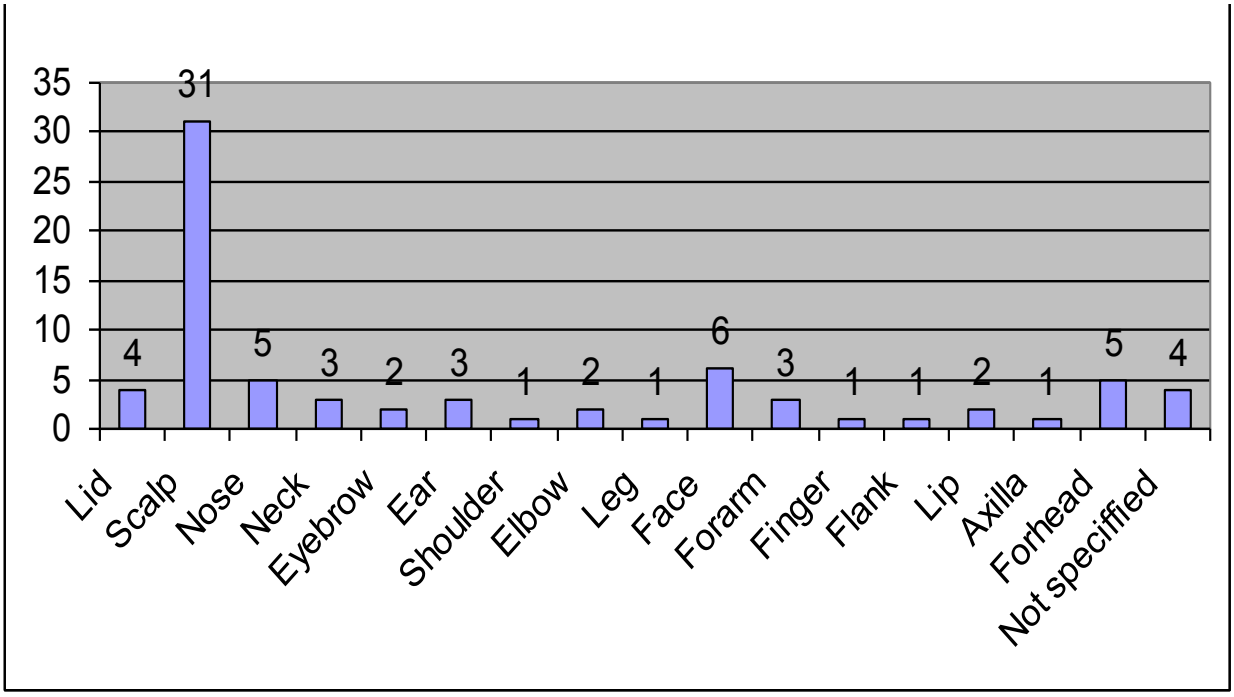

Figure 2 Location of lesions.

hemangioma, squamous cell carcinoma, skin tag, basal cell carcinoma, lipoma, and syringoma (1.33%) each. In 22 cases the clinical diagnosis had not been mentioned by the physician.

In terms of sex distribution of the lesions (**Figures 3** and **4**, **Table 2**), the frequencies were the same in both sexes except that a higher incidence of pilomatricoma and trichilemmal cyst was observed among women. In only 13% of the cases clinical diagnosis corresponded to pathological.

Discussion

Benign adnexal tumors are rarely reported in pathological findings. These tumors are not

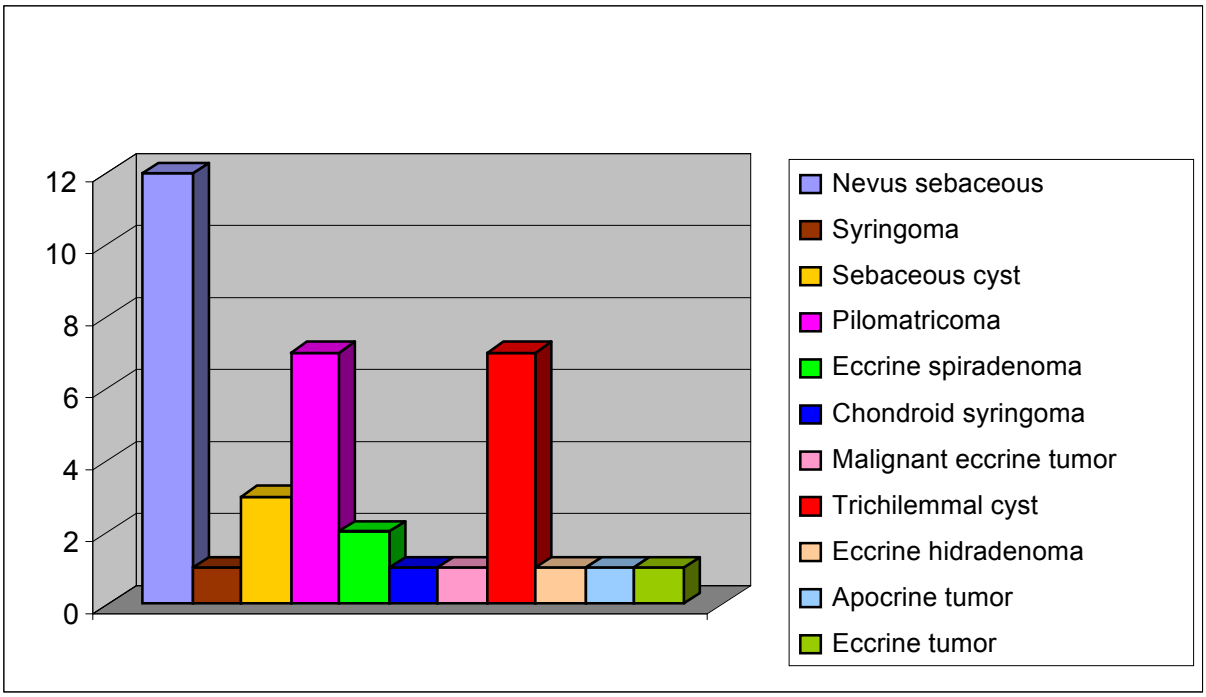

Figure 3 Frequency of different adnexal tumours encountered in female patients.

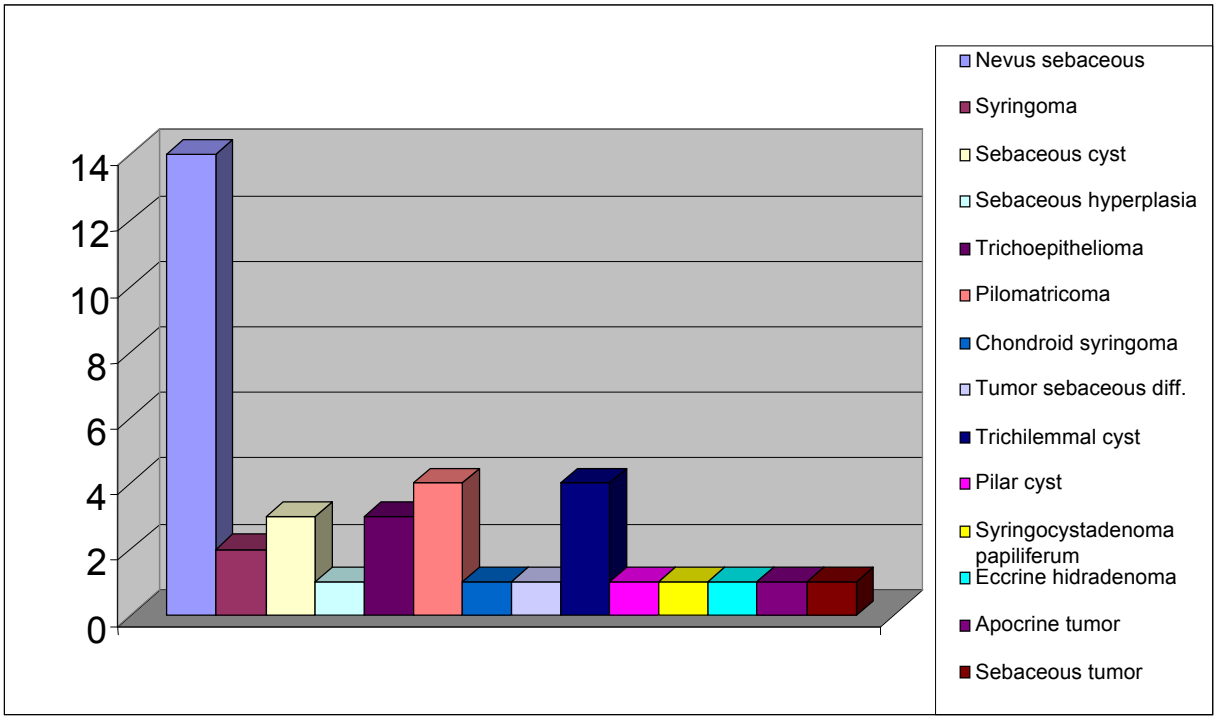

Figure 4 Frequency of different adnexal tumours encountered in male patients.

considered frequent in our country. In the present study suggest the incidence rate was also low at 1.8%. Concerning age limit, the average age to develop the lesion was 33.56 years. However, lesions such as pilomatricoma were mostly detected at younger ages in children and young adults, which was in line with previous studies.[1-6,]

Table 1 Frequency of different types of benign adnexal tumours (n=75)

Type of tumour	*n (%)*
Nevus sebaceous	25 (33.3)
Trichilemmal cyst	12 (16)
Pilomatricoma	11 (14.7)
Sebaceous cyst	6 (8)
Trichoepithelioma	4 (5.4)
Syringomas	3 (4)
Chondroid syringoma	2 (2.7)
Eccrine hidradenoma	2 (2.7)
Sebaceous tumours (unclassified)	2 (2.7)
Apocrine tumour (unclassified)	2 (2.7)
Sebaceous hyperplasi	1 (1.3)
Pilar cyst	1 (1.3)
Syringocystadenoma	1 (1.3)
Eccrine spiradenoma	1 (1.3)
Malignant eccrine tumor	1 (1.3)
Eccrine tumour (unclassified)	1 (1.3)

Table 2 Comparison of frequency in both sexes.

Type of tumour	*Females*	*Males*	*Total*
Nevus sebaceous	12	13	25
Trichilemmal cyst	7	5	12
Pilomatricoma	7	4	11
Sebaceous cyst	3	3	6
Trichoepithelioma	1	3	4
Syringomas	1	2	3
Chondroid syringoma	1	1	2
Eccrine hidradenoma	1	1	2
Sebaceous tumour (unclassified)	1	1	2
Apocrine tumour (unclassified)	1	1	2
Sebaceous hyperplasi	0	1	1
Pilar cyst	0	1	1
Syringocystadenoma	0	1	1
Eccrine spiradenoma	1	0	1
Malignant eccrine tumor	1	0	1
Eccrine tumour (unclassified)	1	0	1

With regard to sex distribution, there was no significant difference between men and women. Nevertheless, lesions such as trichilemmal cyst had higher frequency among women, as reported in previous studies.[1,2,3,6] Similarly, this study also showed higher frequency of the head and neck areas.[1-6]

Regarding the frequency of the lesions, sebaceous nevi, pilomatricoma, and trichilemmal cyst were the most frequent ones, in both men and women. Correspondence between clinical findings and pathological reports was seen in 13% of the cases, which accounts for the diversity of clinical manifestations and lack of familiarity on the part of physicians.[1-3]

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