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Histopathological Study of Skin Adnexal Tumours: A 3yr Retrospective Study

M.A. Sameer*, S.A. Deshpande, S.V. Suvernakar*****

*Associate Professor **Professor and Head ***Associate Professor, Department of Pathology, Dr. Shankarrao Chavan Government Medical College, Nanded, Maharashtra 431601, India.

Abstract

The aim of this study was correlation of skin adnexal tumors with age, sex, and location and determining its incidence in the Department of Pathology government medical college and Hospital, Nanded, Maharashtra. All cases of skin adnexal tumors diagnosed during 2015-2017 are included in this study. Total 27 cases were of adnexal tumour out of received 13057 biopsy specimens in our department.70.36% were benign and 29.6% were malignant Lesions. The sweat gland tumors constituted the largest group (including both apocrine and eccrine differentiation) followed by the hair follicle tumors and sebaceous gland tumors. Overall male: female ratio was 1:2.89. The commonest age group was 41–60 years and the commonest affected body part was head, neck and face region. Pilomatricoma were commonest benign tumors and sebaceous carcinoma was the most common malignant tumor seen. The incidence of benign skin adnexal tumors was more as compared to the malignant tumors.

Keywords: Adnexal Tumours; Pilomatricoma; malignant Lesions.

Introduction

The adnexae is part of the epidermis of the skin and is composed of different kinds of cells that can give rise to a wide variety of tumors [1,2,3]. It is comprised of sweat glands, sebaceous glands and hair follicles, all of which share the same origin. Thus tumors arising from them share many similar features [1].Skin adnexal tumors (SATs) are those neoplasms that differentiate toward or arise from pilosebaceous unit, eccrine sweat glands or apocrine sweat glands, and these tumors are classified into four groups that exhibit histologic features analogous to hair follicles, sebaceous glands, and eccrine glands [4]. These tumors are derived from multipotential undifferentiated cells present within the epidermis or its appendageal structures and the histologic features of a tumor are related to the activation of molecular pathways responsible for forming the mature adnexal structure [4] . Any detailed morphological classification of these tumors run into difficulties owing to the variety of tissue elements and patterns seen. The majority of these tumors are benign and are rarely malignant [5].

Corresponding Author: S.A. Deshpande, Professor and Head, Department of Pathology, Dr. Shankarrao Chavan Government Medical College, Nanded, Maharashtra 431601.
E-mail: shubhapath@gmail.com

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Materials and Methods

The study was a hospital-based retrospective study conducted in the Department of Pathology, Government Medical College Nanded and Hospital from june 2015 to June 2017. All cases of skin adnexal tumors diagnosed during this period were included. The clinical details were obtained from accompanying requisition forms and record section. The slides and blocks were retrieved from the archives and analyzed. The slides were stained using routine Hematoxylin and eosin staining and confirmed with special stains whenever required.

Results

A total of 27 skin adnexal tumors were diagnosed during the study period out of 13057 cases of surgical pathology reported. The incidence of skin adnexal

tumors was found to be 0.20%. There were 7 males (25.92%) and 20 females (74.07%) with a male: female ratio of 1:2.89 [Table 1]. The maximum cases were in the age group of 41-60 years (40.74%) The age distribution is shown in table number 2 . With respect to anatomical location, the head and neck region was found to be the most common with predominance in the scalp followed by face. The anatomical locations are shown in Table 3. Out of the 27 cases documented, 19 were benign (70.37%) and 8 were malignant (29.62%). The tumors were further divided into hair follicle, sebaceous, eccrine, and apocrine gland differentiation, benign and malignant lesions observed are shown in Table 4 &5.

The most common tumors were of sweat gland origin (12/27 44.44%), followed by hair follicle (10/ 27 37.07%) (Table 4 & 5). The most common benign tumor was pilomatricoma (3/19). Malignant adnexal tumors were rare with 6 cases in our study out of which 4 were sebaceous carcinoma making it the most common type and two case each of trichilemmal carcinoma, one case of mucinous eccrine carcinoma and hidradenoma carcinoma.

Table 1: Sex Distribution of Adnexal Tumors in Our Study(n=27)

Sr. No.	Sex	No. of Cases	Percentage
1	female	20	74.07%
2	male	7	25.92%
	total	27	100%

Table 2: Age Wise Distribution of Adnexal Tumors (n=27)

Sr. No.	Age Group (years)	Cases
1	0-20	2
2	21-40	9
3	41-60	11
4	61-80	4
5	81-100	1
	Total	27

Table 3: Distribution of cases based on anatomical locations

Anatomical Location	Number of Cases (%)
Head and neck	8
Face	5
Eyelid	4
Trunk	3
Upper limb	3
Lower limb	2
External Genital area	1
Perianal region	1
Total	27

Table 4: Benign adnexal tumours in present study

Apocrine gland differentiation tumours	No. of Cases	Eccrine gland differentiation tumours	No. of Cases	Hair follicle tumours	No. of cases	Sebacous gland tumours	No. of cases
Hidradenoma papilliferum	2	Eccrine poroma	2	pilomatricoma	3	Sebaceous hyperplasia	1
Cylindroma	1	Eccrine spiroadenoma	2	trichoepithelioma	2		
Syringocystadenoma Papilliferum	2	Eccrine hidrocystoma	1	Proliferating trichilemmal tumour	2		
				Trichofolliculoma	1		

Table 5: Malignant adnexal tumours in present study

Sweat gland tumours	No. of cases	Hair follicle tumours	No.of cases	Sebaceous gland tumours	No. of cases
Hidradenoma carcinoma	1	Trichemmal carcinoma	2	Sebaceous Carcinoma	4
Mucinous eccrine carcinoma	1				

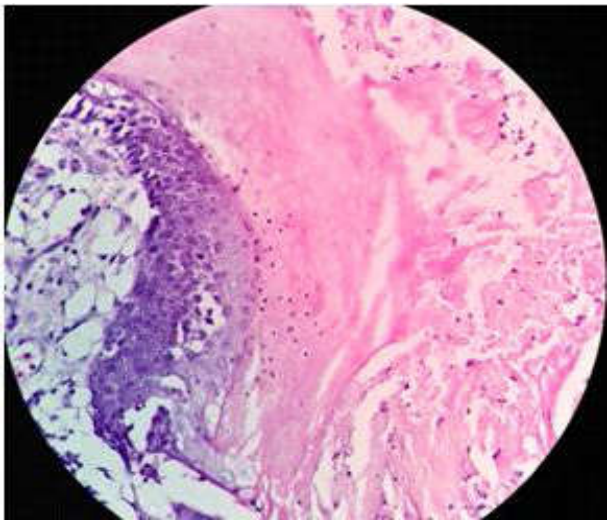

Fig. 1: Pilomatricoma 400x showing transformation of basaloid cells into shadow cells

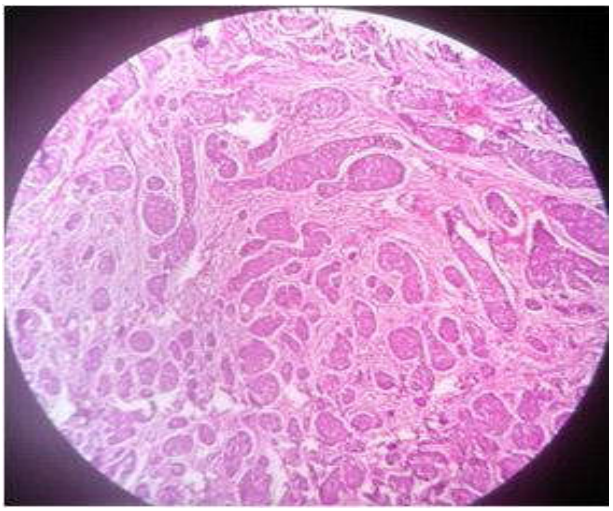

Fig. 2: Cylindroma (100x) showing irregular islands of epithelial cells

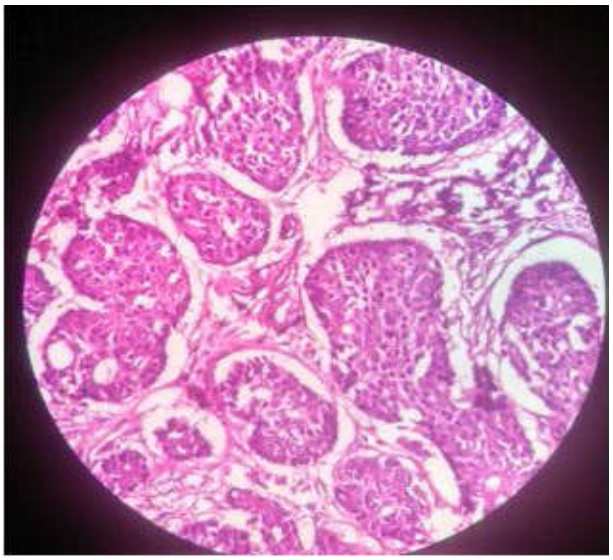

Fig. 3: Cylindroma 400x showing two types of epithelial cells

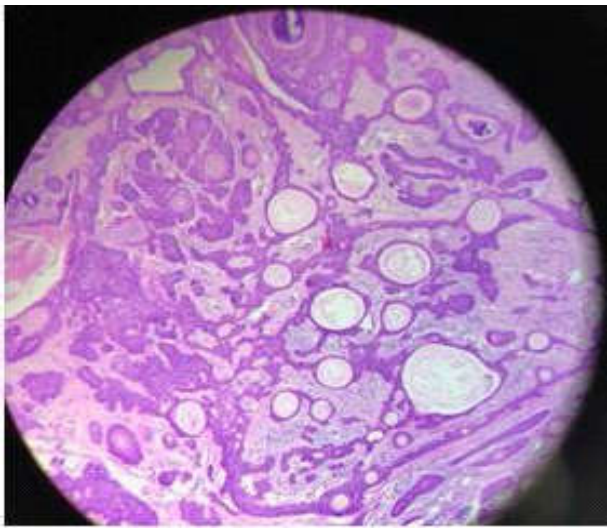

Fig. 4: Trichoepithelioma 100x showing horn cysts of varying sizes and basaloid epithelial formations

Fig. 5: Case of multiple familial trichoepitheliomas

Fig. 6: Eccrine spiroadenoma showing epithelial cells arranged in intertwining bands

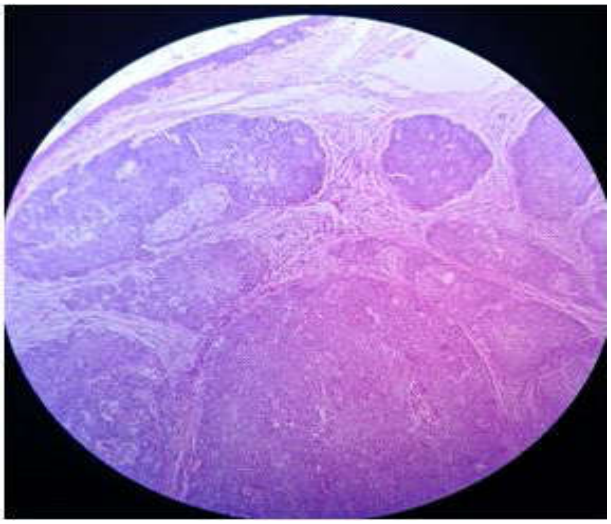

Fig. 7: Sebaceous carcinoma 10x ,showing irregular epithelial lobules

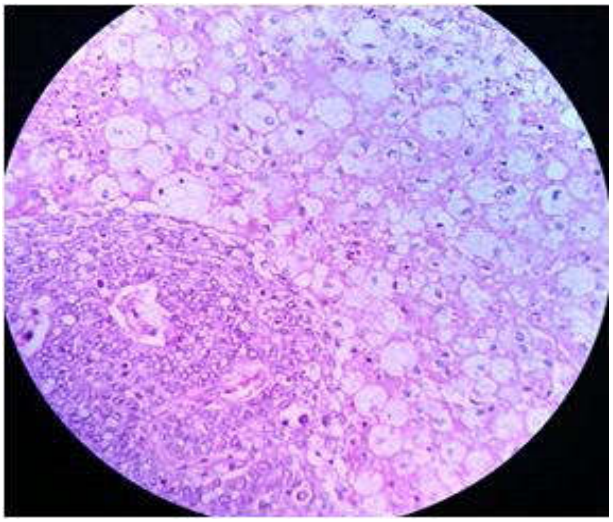

Fig. 8: Sebaceous carcinoma lesional cells demonstrate mitotic activity, foamy cells

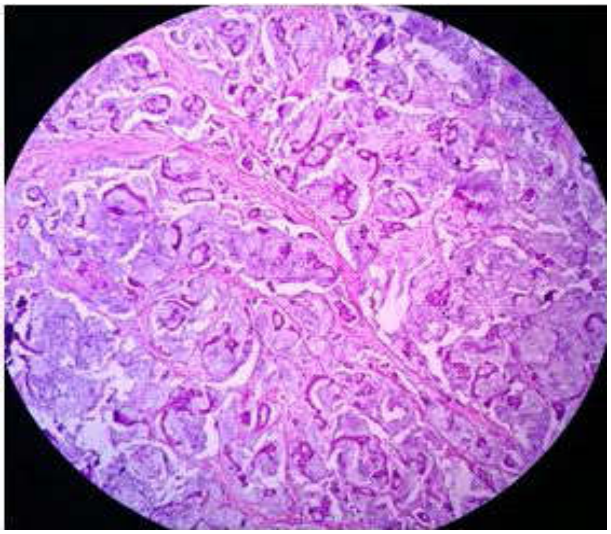

Fig. 9: Mucinous eccrine carcinoma, showing numerous compartment abundant amount of mucin

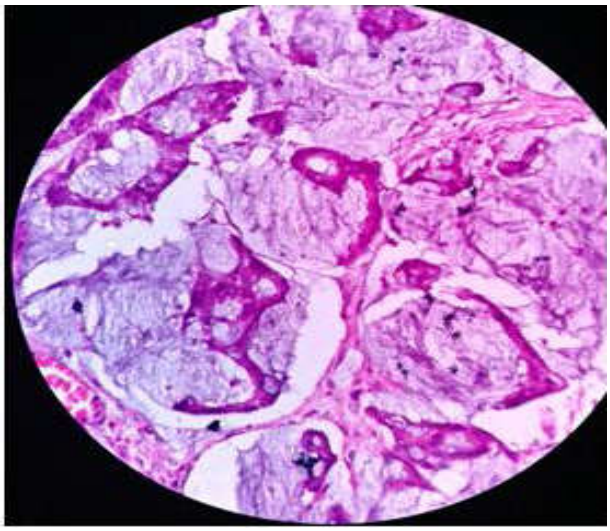

Fig. 10: Mucinous eccrine carcinoma 400x, showing numerous compartment abundant amount of mucinand islands of epithelial cells

Discussion

Incidence of benign tumors is more as compared to malignant cases. In present study 70.36% (19/27) tumors were benign and 29.6%(8/28) tumors were malignant which were comparable to results seen in study of Reddy et al. [7].

Our findings were comparable with studies of radhika et al. [6] , and Samaila [8] who reported 77.14%, and 88.5% benign and 29.63%, and 11.5% malignant lesions, respectively.

In our study we observed sweat gland tumours are commonest followed by hair follicle tumors and then sebaceous glands tumors which are similar to study of Nair [9] and Ankit et al [10] . However, Radhika et al. [6] and Samalia [8] observed that sweat glands tumors are the commonest SATs followed by sebaceous glands tumors followed by tumors of hair follicle.

Present study showed male: female ratio as 1:2.89 which is similar to study of Radhika et al [6] . Male: female ratio as observed by Nair [9] and Saha et al. [11] was 1:2.3 and 1:1.88, respectively.

Nair [9]observed the commonest age group of presentation was 11–20 years; however, in the present study, commonest age group was 21-40 years followed by 41-60years. Samalia [8] observed that 46% of lesions were located in head and neck region which was also seen in our study.

In our study pilomatricoma was the most common benign tumour which is also seen in study of Song et al [12]. Radhika et al. [6] observed that the most

common benign tumor nodularhidradenoma followed by sebaceous naevus [1]. In study of Ankit et al [10] most common tumor was Proliferating Trichilemmal Cyst.

Most common malignant tumour was sebaceous carcinoma which seen in 4 cases , in three of the cases it was seen in elderly females as lower eyelid mass ,in one case it was seen over scalp over in elderly female.

One case of mucinous eccrine carcinoma was diagnosed in 47yr male over gluteal region , which is rare tumour.

Two cases of trichilemmal carcinoma were observed in our study ,one was presenting as clinically squamous cell carcinoma over vulva in 40 yr old female and other was diagnosed in 50yr female with scalp swelling.

One case of multiple familial trichoepithelioma was observed in a 30 yr old female along with her sibiling and father presenting as multiple skin coloured nodules.

Conclusion

In our study the incidence of benign skin adnexal tumors is more as compared to the malignant ones. most common tumors were of sweat gland origin, followed by hair follicle. To conclude Adnexal tumors of skin are uncommon and are mostly benign .

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