

## A histopathological spectrum of skin adnexal tumors

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**Abstract:** A retrospective observational study of histopathology of Skin adnexial tumors was done during the period of three years (n=28), from June 2013- May 2015 in a tertiary care hospital .Majority of the tumors are benign and the origin is hair follicle. Incidence is higher in females when compared to the males and head & neck region is the commonest site.

**Keywords:** Skin adnexal tumors (SAT), Hematoxylin & Eosin staining (H&E Staining)

### I. Introduction

Skin appendages are sweat gland, sebaceous gland and hair follicle. Adnexal tumours arising from the skin are usually missed clinically and often confirmed by histopathology. Immunohistochemistry may further help in confirmation of the diagnosis[1]. These tumours may be confused with certain types of cutaneous cancer. Diagnosis of skin adnexal tumours is possible by performing an elliptical skin biopsy, submitting for haematoxylin and eosin (H&E) staining and histochemistry. Adnexal tumours of the skin though rare, have been recognized from the later part of the 19th century. Tumours of cutaneous appendages are uncommon. The classification of these tumours is complex. They carry a wide histopathological spectrum, and different terms are often used to describe the same tumour.[1]. They are commonly clustered according to their adnexal differentiation based on histological, ultrastructural and immunohistochemistry analysis; eccrine, follicular, apocrine and sebaceous [2]. SATs basically originates from pluripotent stem cells and finally differentiate to specific tumour types influenced by genetics, local vascularity and the microenvironment of the dermis and epidermis. Owing to common origin many tumours may share common while on the other hand some SATs may display areas of mixed differentiation due to the ability of stem cells to differentiate along multiple lines, making the morphological classification of these tumours difficult. So now apparent differentiation rather than derivation may conceptually be more plausible approach to classifying these tumours. Many a time it is the only academic interest to give a label because most of the time clinician do not bother about the label but pay more attention whether the labelled diagnosis is benign or malignant and what is the prognosis once it has been removed.

### II. Material And Methods

Adnexal tumours of the skin diagnosed in the Department of Pathology, during the period, June 2013 - May 2015,(n=28) at our tertiary care teaching hospital in South India, formed the material for this retrospective study. The tumours were subjected to meticulous gross and microscopic examination. For histological examination, 10% formalin fixed, embedded ,representative tissue sections were stained with Hematoxylin and Eosin staining.

### Observations & Results

**Table No1: Adnexal Tumors According To Direction Of Differentiation (N=28)**

S.NO	DIRECTION OF DIFFERENTIATION	CASES	PERCENTAGE
1	HAIR FOLLICLE	18	64.29%
2	SWEAT GLAND	10	35.71%
3	SEBACEOUS GLAND	-	-
	TOTAL	28	100%

In our study majority of the tumors were found to be of hair follicle origin(64.29%) followed by tumors of sweat gland differentiation(35.71%).

**Table No 2: Distribution Of Tumors According To Behavior (N=28)**

S.NO	NATURE OF TUMOR	CASES	PERCENTAGE
1	BENIGN	24	85.71%
2	MALIGNANT	4	14.29%
	TOTAL	28	100%

Majority of the tumors (85.71%) were found to be benign.

**Table No 3: Sex Distribution Of Adnexal Tumors In Our Study(N=28)**

S.NO	SEX	NUMBER OF CASES	PERCENTAGE
1	MALE	10	35.71%
2	FEMALE	18	64.29%
	TOTAL	28	100%

We found higher incidence of these tumors in females in our study.

**Table No.4: Age Wise Distribution Of Adnexal Tumors (n=28)**

S.NO	AGE GROUP( in years)	CASES
1.	0-20	2
2.	21-40	14
3.	41-60	10
4.	61-80	2
5.	81-100	0
		28

Commonest age group of presentation is 21 – 40 years followed by 41-60 years.

**Table No 5: The Site And Sex Distribution Of The Observed Adnexal Tumors(n=28)**

S.NO	SITE OF TUMOR	MALE	FEMALE	TOTAL	PERCENTAGE
1	HEAD & NECK				
	SCALP	6	8	14	50%
	NECK	0	2	2	7.14%
2	UPPER ARM	0	6	6	21.43%
3	LOWER LIMB	4	0	4	14.29%
4.	TRUNK	0	2	2	7.14%
	TOTAL	10	18	28	100%

In our study the commonest site of occurrence of these tumors was head and neck with scalp being the most common region .,

S.NO	DIRECTION OF DIFFERENTIATION	TYPES
1.	PILOSEBACEOUS	TRICHO-FOLLICULOMA
		TRICHOEPITHELIOMA
		PROLIFERATING TRICHILEMMAL CYST
		PILOMATRIXOMA
		MALIGNANT PROLIFERATING CYST
2	SWEAT GLAND	ECCRINE SPIRADENOMA
		ECCRINE POROMA
		SYRINGOMA ECCRINE SYRINGOFIBROADENOMA
		NODULAR HIDRADENOMA
		CLEAR CELL HIDRADENOCARCINOMA

In our study tumors of hair follicle were the commonest(64.29%) with proliferating trichilemmal cyst being the most common tumor.

### III. Discussion

Incidence of benign tumors is more as compared to malignant cases. In present study 85.71% (24/28) tumors were benign and 14.29%(4/28) tumors were malignant which was also seen in studies of Radhika et al. [1], Reddy et al. [3], and Samaila [4] who reported 77.14%, 69.41%, and 88.5% benign and 29.63%, 30.59%, and 11.5% malignant lesions, respectively. Nair [5] observed that sweat glands tumors are the commonest followed by hair follicle tumors and then sebaceous glands tumors. The present study shows majority of the tumors were found to be of hair follicle origin (64.29%) followed by tumors of sweat gland differentiation (35.71%). However, Radhika et al. [1] and Samalia [4] observed that sweat glands tumors are the commonest SATs followed by sebaceous glands tumors followed by tumors of hair follicle. Male: female ratio as observed by Nair [5] and Saha et al. [6] was 1:2.3 and 1:1.88, respectively. Radhika et al. also observed that majority of the patients are in the third decade and females outnumbered males [1]; however, present study showed male: female ratio as 1:1.8. Saha et al. [6] observed the mean age of onset of SATs was  $24.15 \pm 8.44$ . Nair [5] 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 41–60 years. Samalia [4] observed that 46% of lesions were located in head and neck region which was also seen in our study. Song et al. observed that pilomatricoma was the most common benign tumor followed by dermoid cyst followed by steatocystoma multiplex, syringoma, and trichilemmal cyst [7]. Radhika et al. observed that the most common benign tumor is nodular hidradenoma followed by sebaceous naevus [1]. In present study, most common tumors were Proliferating Trichilemmal Cyst followed by eccrine poroma.

### IV. Conclusion

- In our study the incidence of benign skin adnexal tumors is more as compared to the malignant ones
- Skin adnexal tumors can occur anywhere in the body; however Head and neck region constitutes the most common site in our study
- Skin adnexal tumors showing hair follicle differentiation are seen more frequently. In our institutional study, proliferating trichilemmal cyst is the most common type of hair follicle tumor.
- To conclude Adnexal tumors of skin are uncommon and are mostly benign so surgical excision will suffice in most cases.

### References

- [1]. Radhika K, Phaneendra BV, Rukmangadha N, Reddy MK. A study of biopsy confirmed skin adnexal tumours: experience at a tertiary care teaching hospital. *J Clin Sci Res* 2013;2:132-8
- [2]. Storm CA, Seykora JT. Cutaneous Adnexal Neoplasm. *Am J Clin Pathol* 2002; 118:S33-S49.[pubmed]
- [3]. M. K. Reddy, A. J. Veliath, S. Nagarajan, and A. L. Aurora, "A clinicopathological study of adnexal tumours of skin," *Indian Journal of Medical Research*, vol.75, no.6, pp.882–889, 1982
- [4]. M. O. A. Samaila, "Adnexal skin tumors in Zaria, Nigeria," *Annals of African Medicine*, vol.7, no.1, pp.6–10, 2008.
- [5]. P. S. Nair, "A clinico-histopathological study of skin appendageal tumors," *Indian Journal of Dermatology, Venereology and Leprology*, vol.74, article 550, 2008
- [6]. A.Saha, N.K.Das, R.C.Gharami, S.N.Chowdhury, and P.K. Datta, "A clinico-histopathological study of appendageal skin tumors, affecting head and neck region in patients attending the dermatology department of a tertiary care centre in eastern India," *Indian Journal of Dermatology*, vol.56, pp.33–36, 2011.
- [7]. K.-Y.Song, D.-H.Yoon, E.-K.Ham, and Y.-S.Lee, "Clinicopathological study on the skin appendage tumors," *Korean Journal of Pathology*, vol.23, pp.111–121, 1989.