

Original Research Article

# Histopathological Study of Skin Adnexal Tumors - A Ten Years Study

V. Srinivas Kumar<sup>1</sup>, V. Geeta<sup>1\*</sup>, Nikhil Kumar Voruganti<sup>2</sup>, O. Shravan Kumar<sup>3</sup>, Tamlarasi<sup>4</sup>

<sup>1</sup>Associate Professor of Pathology, Government Medical College, Siddipet, Telangana State, India

<sup>2</sup>Medicity Institute of Medical Sciences, Ghanapur, Telangana State, India

<sup>3</sup>Professor and HOD, Department of Pathology, Gandhi Medical College, Secunderabad, Telangana State, India

<sup>4</sup>Professor, Department of Pathology, Gandhi Medical College, Secunderabad, Telangana State, India

\*Corresponding author email: [geetavoolapalli@gmail.com](mailto:geetavoolapalli@gmail.com)

	International Archives of Integrated Medicine, Vol. 5, Issue 10, October, 2018. Copy right © 2018, IAIM, All Rights Reserved. Available online at <a href="http://iaimjournal.com/">http://iaimjournal.com/</a> ISSN: 2394-0026 (P) ISSN: 2394-0034 (O)	
	Received on: 24-09-2018 Source of support: Nil	Accepted on: 30-09-2018 Conflict of interest: None declared.
<b>How to cite this article:</b> V. Srinivas Kuma, V. Geeta, Nikhil Kumar Voruganti, O. Shravan Kumar, Tamlarasi. Histopathological Study of Skin Adnexal Tumors - A Ten Years Study. IAIM, 2018; 5(10): 95-100.		

## Abstract

**Background:** Adnexal tumors of skin are uncommon in routine practice and may cause diagnostic problems clinically. Presence of Multiple tumors can be considered as marker for visceral malignancy e.g. multiple trichilemmoma-breast malignancy. Adenexal tumors of the skin are classified into four groups.

**Aim:** To correlate skin adenexal tumors with age, sex and location and incidence in the Department of Pathology, Gandhi Hospital, Hyderabad.

**Materials and methods:** Total number of cases was 136, during study period from April 2007 to March 2017 (ten years) in present study. All slides stained with routine Hematoxylin and Eosin and special stains accordingly.

**Results:** Total number of Adenexal tumors were 136; benign tumors were 134 (98.4%), malignant tumors were 02 (1.6%), Largest group was sweat gland tumors (42.1%) e.g. chondroid syringoma, eccrine poroma, syringo cystadenoma papilleferum, hair follicle tumors (35.4%) e.g. trichoepithelioma, pilomatricoma and sebaceous adenoma and sebaceous carcinoma. Undifferentiated and others (21%) e.g. benign trichogenic tumors were also noted.

**Conclusion:** The incidence of benign skin adenexal tumors was more as compared with the malignant tumors. Malignant tumors were seen predominantly in elderly.

## Key words

Syringoma, Trichoepithelioma, Adenexal tumors.

## Introduction

Adnexal tumors of skin are uncommon in routine practice and may cause diagnostic problems clinically. Presence of Multiple tumors can be considered as marker for visceral malignancy e.g. multiple trichilemmoma-breast malignancy. Adenexal tumors of the skin are classified into four groups:

- Tumors with differentiation towards hair follicles,
- Sebaceous glands,
- Eccrine sweat glands, and
- Apocrine sweat glands.

They exhibit histological features analogous to hair follicles, sebaceous glands, and eccrine glands [1]. They were thought to be derived from multipotential undifferentiated cells possibly from the epidermis or its appendageal structures.

## Clinical features

Most of the tumors present with fleshy colored, solitary or multiple papules or nodules [1, 2]. Predilection for certain parts of body e.g. Eccrine acrospiroma usually occur in lower limb but can occur in other parts also and it is a difficult task for the clinicians for accurate diagnosis. Sometimes the anatomic location, number and distribution of lesions may give some clue to the diagnosis. The confirmation of the diagnosis is

by Histopathology and immunohistochemistry. The present study was done to analyze adenexal tumors of the skin for their morphological, clinical and histological features and is grouped according to the International classification of world Health organization (2006).

## Aim

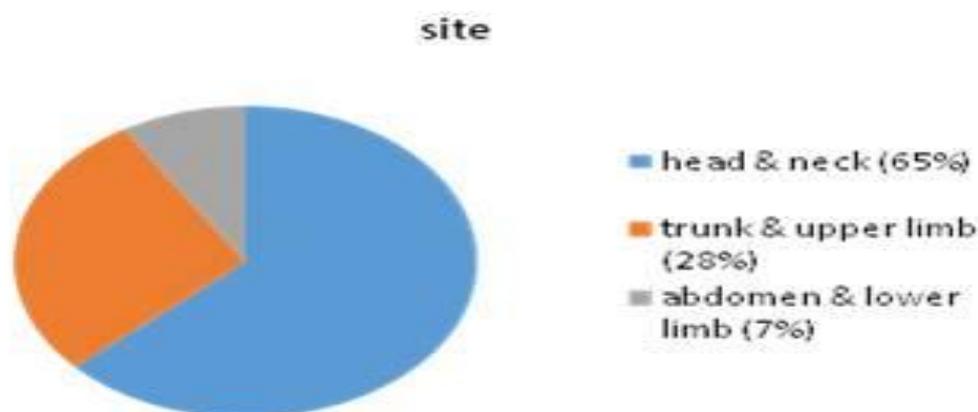
- To correlate skin adenexal tumors with age, sex location and incidence in the department of pathology, Gandhi Hospital, Hyderabad.

## Materials and methods

The total number of specimens received from Dermatology OPD to the Department of Pathology at Gandhi Medical College, Secunderabad, Telangana State, for a period of 10 years i.e. from April 2007 to March 2017 were 45336, out of which 136 were diagnosed histopathologically as adenexal tumors constituting 0.3%.

The histopathological study of all the received specimens (136) which were fixed in formalin were processed and stained with routine Hematoxylin and Eosin and special stains PAS and Reticulin accordingly.

**Figure - 1:** Site of the skin lesions.

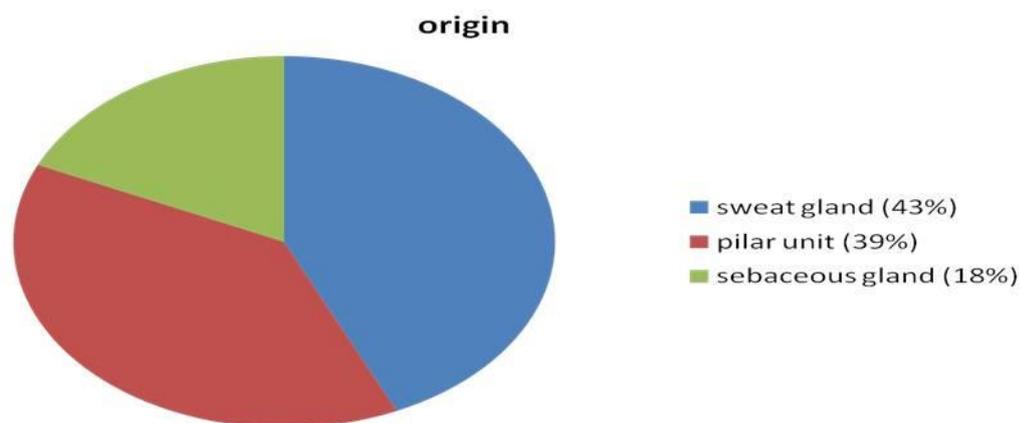


## Results

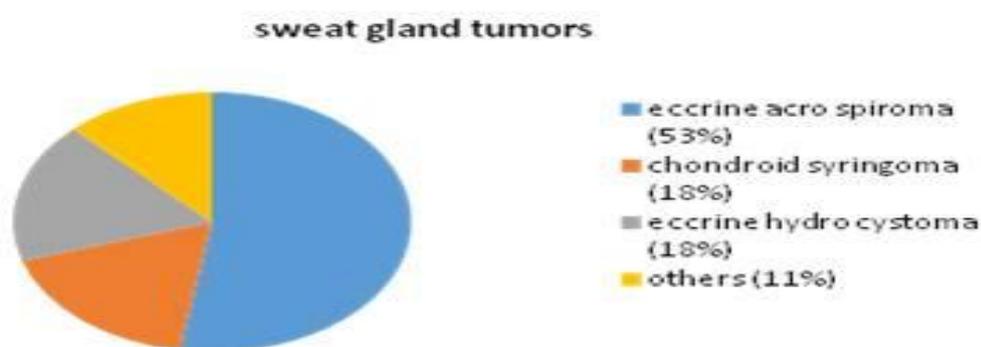
Total number of received skin specimens were 45336, out of which histopathologically diagnosed adenexal tumors were 136 (0.3%). Age groups were varied from 20-70 years. Majority were found between 40-70 year age group. Males were 71 (52.2%), outnumbered

females, who were 65 in number (47.8%). Site of the skin lesions was as per **Figure – 1**. Origin of skin lesions was as per **Figure – 2**. Different types of sweat gland tumors were as per **Figure – 3**. Different types of Pilar tumors were as per **Figure – 4**. Tumor Behavior was as per **Figure – 5**.

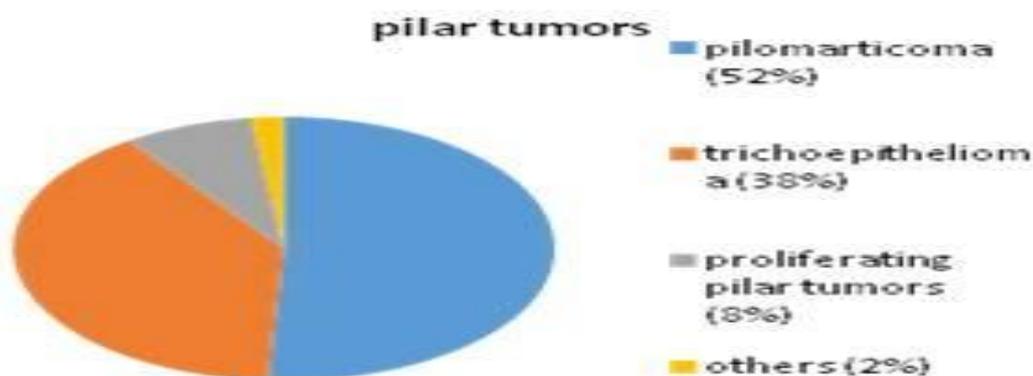
**Figure - 2:** Origin of skin lesions.



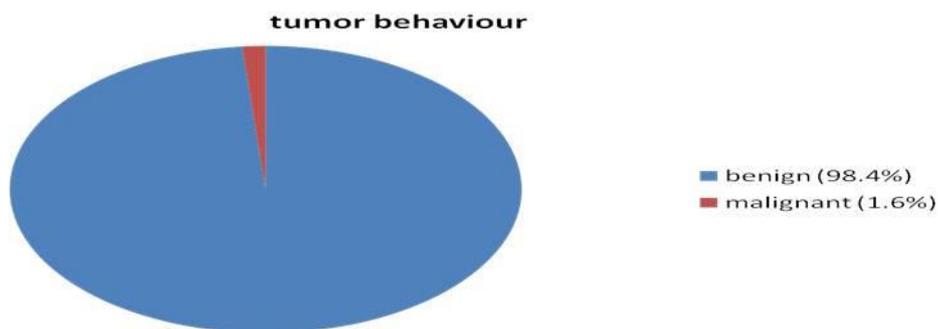
**Figure - 3:** Different types of sweat gland tumors.



**Figure - 4:** Different types of Pilar tumors.



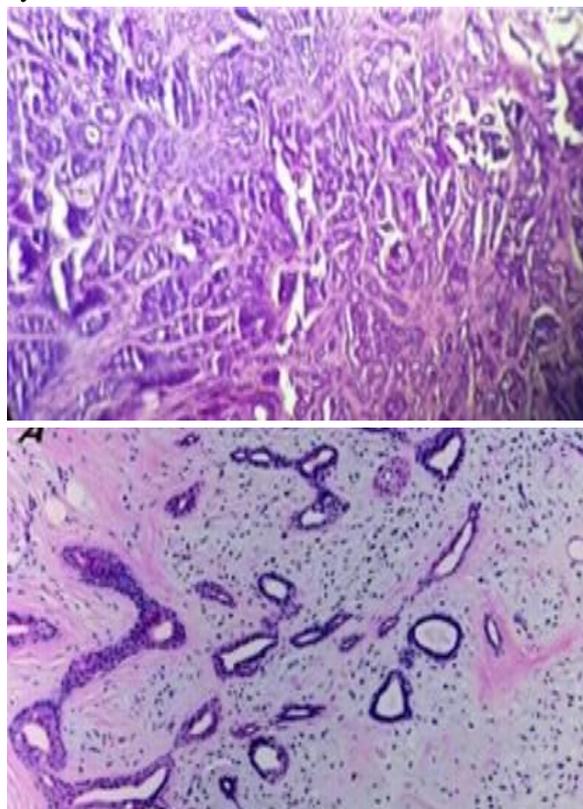
**Figure – 5:** Tumor Behavior: Benign tumors - 134 (98.4%), Malignant tumors - 02(1.6%).



Largest group was sweat gland tumors (42.1%) e.g. chondroid syringoma, eccrine poroma, syngo cystadenoma papilleferum, hair follicle tumors (35.4%) e.g. trichoepithelioma, pilomatricoma and sebaceous adenoma and sebaceous carcinoma. Undifferentiated and others (21%) e.g. benign trichogenic tumors were noted. Micro photographs of adnexal tumors were as per **Figure – 6 to 13**.

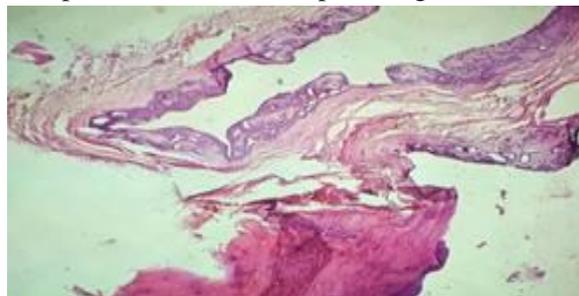
**Figure - 6:** Chondroid syringoma.

Chondroid Syringoma - chondroid matrix, tubuloalveolar structures lined by double epithelium, ductal structures lined by a single epithelium, nests of polygonal cells, keratinous cysts.



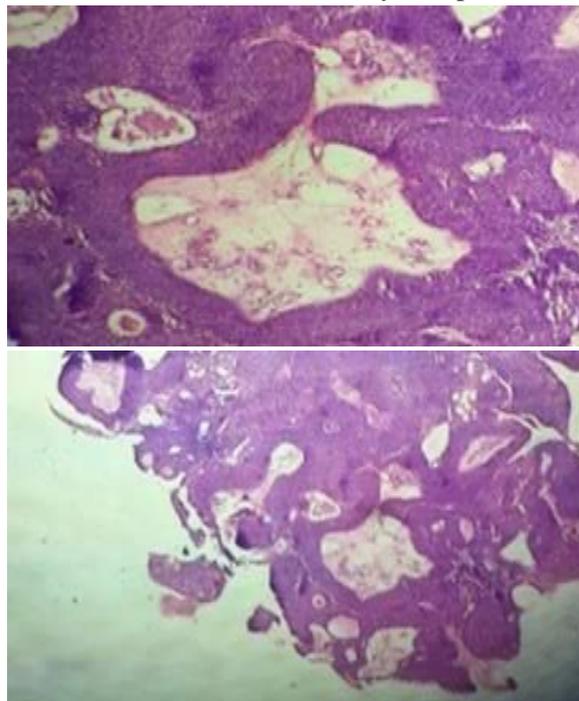
**Figure - 7:** Steatocystoma simplex.

Steatocystoma Simplex-intricately folded cyst wall consisting of several layers of epithelial cells. Central to these cells there is thick homogenous eosinophilic horny layer that protrudes in the lumen in a fashion simulating decapitation secretion of apocrine glands.



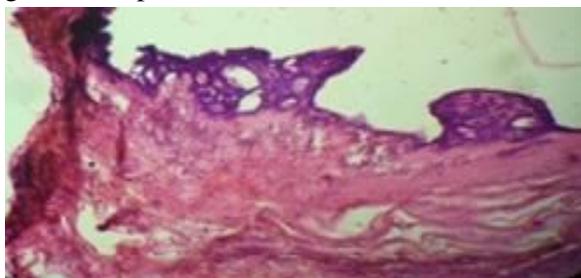
**Figure - 8:** Trichoepithelioma.

Trichoepithelioma - cysts consisting fully keratinized centre surrounded by basophilic cells.



**Figure - 9:** Syringo cystadenoma papilliferum.

Syringo Cystadenoma Papilliferum - cystic invagination extends downwards from the epidermis. Numerous projection lined with glandular epithelium extends into the lumen.



**Figure - 13:** Pilomatricoma-calcifying epithelioma of malharbe.

Pilomatricoma - Calcifying Epithelioma of Malharbe - sharply demarcated irregularly shaped islands of epithelial cells.



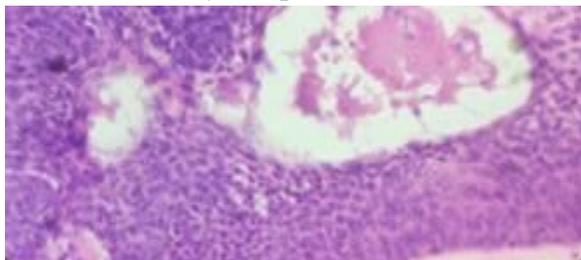
**Figure - 10:** Sebaceous adenoma.

Sebaceous Adenoma - irregular lobules in size and shape.



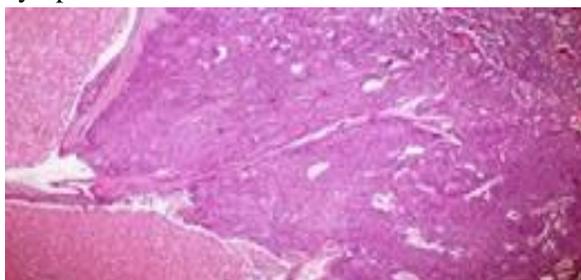
**Figure - 11:** Eccrine acrospiroma.

Eccrine Acrospiroma - nests, lobules of cells, marked vascularity, lumina lined by cuboidal or columnar cells, cystic spaces.



**Figure - 12:** Pilomatricoma.

Pilomatricoma - islands consists of two types of cells, basophilic cells, shadow (ghost cells), shadow cell consists of eosinophilic keratinized cytoplasm without nuclei.



**Discussion**

Incidence of adnexal tumors is very low. 3% in our study which corresponds with the study done by the others [1, 3, 4, 5], benign tumors is more as compared to malignant cases [1]. In the present study 98.4% (133/136) tumors were benign and 1.6% (3/136) tumors were malignant which was also seen in studies of Radhika, et al. [6], Reddy, et al. [7], and Samaila [8] who reported 77.14%, 69.41%, and 88.5% benign and 29.63%, 30.59%, and 11.5% malignant lesions, respectively. Nair [9] observed that sweat glands tumors are the commonest followed by hair follicle tumors and then sebaceous glands tumors. The present study also shows similar results. 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. Male: female ratio as observed by Nair [9] and Saha, et al. [10] 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 [6]; however, present study showed male: female ratio as 1.09: 1. Saha, et al. [10] observed the mean age of onset of SATs was. Nair [9] observed the commonest age group of presentation was 11–20 years; however, in the present study, commonest age group was 51–60 years followed by 31–40 years. Samalia [8] observed that 46% of lesions were located in head and neck region, but in our study it was 65%. Song, et al. observed that pilomatricoma was the most common benign

tumor followed by dermoid cyst followed by steatocystoma multiplex, syringoma, and trichilemmal cyst [11]. Radhika, et al. observed that the most common benign tumor is nodular hidradenoma followed by sebaceous naevus [6]. In present study, most common tumors were of sweat gland tumors 43% e.g. chondroid syringoma, eccrine poroma, syringo cystadenoma papilleferum, followed by pilar unit 39% e.g. trichoepithelioma, pilomatricoma and sebaceous adenoma and sebaceous carcinoma.

### **Conclusion**

In Indian population, an overall incidence of skin adenexal tumors is very low. The incidence of benign skin adenexal tumors is more as compared to the malignant ones. Most of the malignant tumors occur in older age group usually over 50 years of age. However benign tumors show a wide age variation. Skin adenexal tumors can occur anywhere in the body; however head and neck region constitutes the most common site. Majority of the tumors can be classified into different subgroups on the basis of light microscopy alone. Skin adenexal tumors showing sweat gland differentiation are seen more frequently. In our institutional study, chondrioid syringoma, eccrine poroma are common tumors with sweat gland differentiation, while trichoepithelioma is the most common type of hair follicle tumor. Amongst the tumors with sebaceous differentiation, sebaceous adenoma is commonest.

### **References**

1. Klein Wiccan E, Seykora Jt. Tumours of the epidermal appendages. In: Elder DE, Elenitsas R, Johnson BL Jr Murphy GF (eds). *Lever's Histopathology of the skin*. Lippincott, Williams & Wilkins, Philadelphia, 2005; p. 867-914.
2. Rosai J. Skin Tumors and Tumor like conditions. In: *Ackerman's Surgical Pathology*. Mosby, St. Louis, p. 140-154.
3. Ramirez Claudia C, Berman Brian. Cutaneous Sign and Syndromes Associated with internal Malignancies. *Skin Med.*, 2005; 4(2): 84-90.
4. Yoqoob N, Ahmad Z, Muzaffar S, Gill MS, Soomro IN, Hasan SH. Spectrum of Cutaneous Appendage Tumors at Aga Khan University Hospital. *J Pak Med Assoc.*, 2003 Sep; 53(9): 427-431.
5. Samalia MOA. Adnexal Skin Tumors in Zaria, Nigeria. *Ann Afr Med.*, 2008 Mar; 7(1): 6-10.
6. K. Radhika, B. V. Phaneendra, N. Rukmangadha, M. K. Reddy. A study of biopsy confirmed skin adenexal tumors: experience at a tertiary care teaching hospital. *Journal of Clinical and Scientific Research*, 2013; 2: 132–138.
7. M. K. Reddy, A. J. Veliath, S. Nagarajan, A. L. Aurora. A clinicopathological study of adnexal tumours of skin. *Indian Journal of Medical Research*, 1982; 75(6): 882–889.
8. M. O. A. Samaila. Adnexal skin tumors in Zaria, Nigeria. *Annals of African Medicine*, 2008; 7(1): 6–10.
9. P. S. Nair. A clinico-histopathological study of skin appendageal tumors. *Indian Journal of Dermatology, Venereology and Leprology*, 2008; 74, article 550.
10. A. Saha, N. K. Das, R. C. Gharami, S. N. Chowdhury, P. K. Datta. A clinico-histopathological study of appendageal skin tumors, affecting head and neck region in patients attending the dermatology opd of a tertiary care centre in eastern India. *Indian Journal of Dermatology*, 2011; 56: 33–36.
11. K. Y. Song, D. H. Yoon, E. K. Ham, Y. S. Lee. Clinico-pathological study on the skin appendage tumors. *Korean Journal of Pathology*, 1989; 23: 111–121.