

## Original Research Article

**Profile and pattern of skin appendageal tumours from a tertiary care health centre****Dr. Sudhansu Sharma<sup>1</sup>, Dr. ML Tank<sup>2</sup>, Dr. Abhishek Singh<sup>3</sup>, Dr. SK Jain<sup>4</sup>, Dr. Preeti Jain<sup>5</sup>**<sup>1</sup>Assistant Professor, Department of Dermatology, SHKM Govt. Medical College, Mewat, Haryana<sup>2</sup>Associate Professor, Department of General Medicine, Mahatma Gandhi Medical College, Jaipur, Rajasthan<sup>3</sup>Assistant Professor, Department of Community Medicine, SHKM Govt. Medical College, Mewat, Haryana<sup>4</sup>Associate Professor, Department of Dermatology, FH Medical College, NH-2, Tundla, Uttar Pradesh, India<sup>5</sup>Associate Professor, Department of Pathology, FH Medical College, NH-2, Tundla, Uttar Pradesh, India**\*Corresponding author**

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**Abstract:** Clinical diagnosis of different entity is often difficult, as most of the appendageal tumours present as asymptomatic papules or nodules. Early recognition of skin adnexal tumours is very important aspect for patient management and prognosis. The aim is to study the profile and pattern of skin appendageal tumours in a tertiary care health centre. The Retrospective cohort of patients with confirmed diagnosis of AT during 18 months formed the study population. Study tools were records of the patients such as information from MRD department and records from histopathological section i.e. histopathological requisition forms and clinical case sheets. Cases clinically diagnosed as appendageal tumours, but not histologically, were excluded from the study. Finally a total of 35 cases were included in this study. Mean presenting age of our study population was  $30.2 \pm 10.4$  years. Mean age of onset was  $23.5 \pm 6.6$  years and the duration of complaints  $5.1 \pm 4.2$  years. Gender wise, males outnumbered female study subjects. Maximum number of cases (N=19, 54.29%) were observed in the age group of 26 years to 50 years. 97.14% (N=34) were benign and 2.86% (N=1) were malignant. Pilomatricoma (55.56%), eccrine acrospiroma (33.33%) and syringocystadenoma papilliferum (100%) were observed as most commonly distributed histopathological types. Malignant skin appendageal tumour was observed only (n=1) in the age group of 51-75 years in the female sex. Findings emerging out of this study can be utilized to suspect type of AT thus helping in diagnosis. Profile, pattern and clinical appearance can serve as vital clue.

**Keywords:** Study, Clinical, Pattern, Skin appendageal tumours**INTRODUCTION**

The skin is a complex organ and because of its complexity an extensive range of diseases can develop from the skin including tumors. Skin tumors are so ubiquitous that they can affect people of all ages and they are an ideal subject for study from demographic point of view [1, 2]. Appendageal tumors (ATs) are neoplasms which differentiate toward or arise from pilosebaceous apparatus, apocrine gland or eccrine sweat gland.<sup>1</sup> Majority of these tumors are benign [3]. They are basically classified into four groups: tumours with differentiation towards hair follicles, sebaceous glands, eccrine or apocrine glands [4].

Melanomas are rare before puberty. Clinical diagnosis of different entity is often difficult, as most of the appendageal tumours present as asymptomatic

papules or nodules. Local recurrence is well recorded but metastasis is rare with the exception of the malignant eccrine and apocrine gland derived tumors and sebaceous carcinoma. Anatomic location, number and distribution of lesions provide important clue but histopathology is invaluable in confirmation of the diagnosis [5].

The frequency of skin cancer increases with age. Early recognition of skin adnexal tumours is very important aspect as far as patient management and prognosis is concerned. The challenges encountered while diagnosing the various types of these tumours vary from place to place depending on the histological types & demographic pattern. Paucity of literature also warrants this study. Therefore we planned to study

profile and pattern of skin appendageal tumours from a tertiary care health centre.

## MATERIALS AND METHODS

This study was conducted by the Department of Dermatology in collaboration with Department of General Medicine, Community Medicine and Pathology of a tertiary care teaching institution. Retrospective cohort of patients with confirmed diagnosis of AT during a period of 18 months at a tertiary care health centre formed the study population. Histologically proven skin appendageal tumours by the histopathology section of Department of Pathology were included in this study. Confirmed cases of AT were considered as the finally analysable subjects. Cases clinically diagnosed as appendageal tumours, but not histologically, were excluded from the study. Histopathological diagnosis was mandatory for inclusion in the study.

Study tools were records of the patients such as information from MRD department and records from histopathological section i.e. histopathological requisition forms and clinical case sheets. Histopathological section followed following procedure- After proper fixation of specimen in 10% formalin, sections were taken from representative areas,

submitted for routine processing and then were studied by light microscopy after H and E (hematoxylin and eosin) staining. Following this criterion, the cases selected for the study were then classified into follicular, sebaceous, eccrine, and apocrine tumors [6]. Finally a total of 35 cases were included in this study. All the proforma were manually checked and edited for completeness and consistency and were then coded for computer entry. After compilation of collected data, analysis was done using Statistical Package for Social Sciences (SPSS), version 21 (IBM, Chicago, USA). The results were expressed using appropriate statistical methods.

## RESULTS

Data of 35 cases was analyzed. Mean presenting age of our study population was  $30.2 \pm 10.4$  years. Mean age of onset was  $23.5 \pm 6.6$  years and the duration of complaints  $5.1 \pm 4.2$  years. Gender wise, males outnumbered female study subjects. Maximum number of cases (N=19, 54.29%) were observed in the age group of 26 years to 50 years. 80% patients belonged to the lower socio-economic status whereas 16% and 4% patients belonged to the middle and higher socioeconomic status respectively. Around 90 percent patients belonged to rural area. Occupation wise majority of patients were agriculturists and housewives.

**Table 1: Distribution of histopathological types of diagnosed tumours**

Histopathological type of tumour	Frequency	Percent
<b>Benign tumours</b>		
<b>Benign follicular tumours</b>		
Pilomatricoma	10	55.56
Trichofolliculoma	2	11.11
Sebaceous hyperplasia	2	11.11
Proliferating trichilemmal tumour	2	11.11
Trichoepithelioma	1	13.63
Trichoadenoma	1	5.56
Total	18	100.0
<b>Benign eccrine tumours</b>		
Eccrine spiradenoma	1	6.67
Eccrine hidrocystomas	2	13.33
Eccrine cylindroma	2	13.33
Nodular hidradenoma\	5	33.33
Eccrine acrospiroma		
Syringoma	2	13.33
Eccrine poroma	2	13.33
Chondroid syringoma	1	6.67
Total	15	100.0
<b>Benign apocrine tumour</b>		
Syringocystadenoma papilliferum	1	100.0
<b>Total</b>	1	100.0
<b>Malignant tumours</b>		
<b>Malignant eccrine tumour</b>		
Eccrine porocarcinoma	1	100.0
<b>Total</b>	1	100.0

The commonest presenting lesions of skin tumour were papules (78%), followed by nodules (16%), plaque (14%) and patch (6%). Most of the patients presented with asymptomatic skin lesions (78%) and commonest presenting symptom was bleeding (16%), pain (10%) and itching (7%). Most (70%) of the skin lesions were firm in consistency whereas it was soft and cystic in consistency in 25% and 5% of cases respectively. Majority (65%) of the patients presented with single lesion and 35% presented with multiple skin lesions. Most of the patients (62%) suffered from skin tumours for years. In 26% of patients the duration was in months and 22% of patients presented with the skin lesions at birth.

Regarding distribution of benign and malignant tumours, among the all types of skin appendageal tumours diagnosed, 97.14% (N=34) were

benign and 2.86% (N=1) were malignant. As per gender wise distribution of skin appendageal tumours, male subjects were seen more with benign tumours and females were with more malignant tumours. Skin appendageal tumours were found maximum on the scalp in both the sexes. Pilomatrixoma (55.56%), eccrine acrospiroma (33.33%) and syringocystadenoma papilliferum (100%) were observed as most commonly distributed histopathological types of diagnosed benign follicular, benign eccrine and benign apocrine tumours. (Table 1)

Number of benign skin appendageal tumours was found maximum (n=19) in the age group of 26-50 years in both the sexes whereas malignant skin appendageal tumour was observed only (n=1) in the age group of 51-75 years in the female sex. (Table 2)

**Table 2: Sex and age group wise distribution of diagnosed skin appendageal tumours**

Gender			Type of skin appendageal tumours		Total
			Benign	Malignant	
Male	Age groups	< 25	5	0	5
		26-50	8	0	8
		51-75	5	0	5
		>75	1	0	1
	Total		19	0	19
Female	Age groups	< 25	2	0	2
		26-50	11	0	11
		51-75	2	1	3
	Total		15	1	16

## DISCUSSION

Importance of diagnosing ATs lies in the fact that in some instances the presence of ATs may lead to the recognition of a genetic syndrome, like Muir-Torre syndrome associated with sebaceous tumors, Cowden's syndrome with trichilemmomas, etc. ATs are classified into 4 types according to their differentiation toward apocrine gland, eccrine gland, sebaceous gland and hair follicle [5].

In this study we found that mean presenting age of our study population was  $30.2 \pm 10.4$  years. Mean age of onset was  $23.5 \pm 6.6$  years and the duration of complaints  $5.1 \pm 4.2$  years. Gender wise, males outnumbered female study subjects. Sudhakar Rao KM *et al.*; studied 90 cases of verruca vulgaris and majority of the patients were students and belonged to the age group of 11-20 yrs and males outnumbered females (74.44%) [6]. Other studies by Requena L [7] and Bansal A [8] are also in concordance with our observations. This is in contrast to another study which cited that females outnumbered males in his study [9]. The long duration of the tumours seen in our study as well as their asymptomatic nature, in most cases, points towards benign nature of the tumours. Cases were seen most frequently in younger age group. These results are

cohort with others [10].

Rajesh G *et al.*; [7] observed a male-to-female ratio of 1:1.04 and the most common age group affected was 60 years and above (40%) among 250 cases of seborrheic keratosis [11]. Saimila MOA *et al.*; and Solanki RL *et al.*; observed a wide age range and equal sex distribution in benign adnexal tumors [12, 13].

We observed that tumor did not contain element of two or more appendage in varying degrees of maturation. It is postulated that ATs are derived from cells that have the ability to differentiate toward any of the appendages. In many lesions, the differentiation is uniform and the tumor can be recognized and categorized based on its resemblance to a normal appendage or part of it. In other cases, the pluripotent cell may differentiate toward more than one type of appendage giving rise to a tumor that contains element of two or more appendage in varying degrees of maturation [7]. Various studies had been done showing these combined characteristics of ATs [8]. In our study, though such combined nature was not detected.

Regarding malignant tumours, the only one malignant tumor seen in our study was eccrine

porocarcinoma. This malignant skin appendageal tumour was observed in the age group of 51-75 years in the female sex. In the study by Solanki RL *et al.*; [14] the average age was 54 years and peak incidence was in 5th decade. The varying sex distribution of BCC noted in different geographical areas depends on skin color, life style variations, climate, sun exposure and habits [15]. In most of the Indian literature BCC show a male pre- dominance where as in western literature there is female predominance [16, 17].

## CONCLUSIONS

Appendageal skin tumours are uncommon to see in routine practice. Findings emerging out of this study can be utilized to suspect type of AT thus helping in diagnosis. Profile, pattern and clinical appearance can serve as vital clue. Very few studies on appendageal tumours are available in literature hence, this study attempts to bridge this lacuna.

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