

# A Clinicopathological Studies of Skin and Appendageal from a Tertiary Care Hospital in Chennai

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## Abstract

In the present study was to investigated that the Overall frequency of surface epidermal and appendageal tumors and different clinical presentation such as morphology, site and their associations with skin and other systemic conditions and also find out the histopathological features of various tumors. Skin is a complex organ in which precisely regulated cellular and molecular interactions govern many crucial responses to our environment. This is a Prospective Observational Study. Totally 100 cases of appendageal tumors were studied. All the patients were reported in the out-patient department of dermatology, Rajiv Gandhi Government General Hospital, Chennai. Majority of the patient who had skin and appendageal tumors were adults. Most common age group with maximum number of tumors was 21- 30 years. Most common tumor in this study was found to be Seborrheic keratosis (14%) and most common malignant tumor of our study was Basal cell carcinoma (7%). It was more frequently seen among females than males. In the present study we conclude that the Skin and appendageal tumors are a relatively rare group of tumors with considerable clinical and histological overlap. In our study, basal cell carcinoma was the commonest malignant tumor which is a different finding from the other studies where sweat gland tumors were common.

**Keywords:** Skin, Appendageal tumors and Basal cell carcinoma.

## INTRODUCTION

The skin is the largest and most complex organ of our body. It has an ectodermal cover and it is in continuity with the mesenchymal tissues [1,2]. Tumor represents uncontrolled proliferation of a particular cell type which results clinically in different patterns of lesions. Major concern of the patients with skin tumors (both benign & malignant) is cosmetic disfigurement [3].

There has been a significant increase in the number of skin tumors affecting the general population in the recent past. There are different trends in the frequency of skin tumors based on occupational exposure, geographical patterns, skin types, etc.

There is an essential and growing need to classify the skin tumors as benign or malignant to decide for its further management and followup [4].

There are various classifications for the skin and its appendageal tumors in the literature which is based on its histochemical, histopathological, morphological and ultrastructural findings.

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Based on their biological behavior, these tumors can be classified as premalignant, malignant and benign tumors [5]. This study of skin and the appendageal tumors has been carried out to find the frequency of benign and malignant tumors in the general population.

**Materials and Methods**

This is a prospective Observational study. Patients were presented with different forms of tumors of skin and appendages as their main complaints are selected for the study from the dermatology out-patient department of Rajiv Gandhi Government General Hospital, Chennai, India. The sample size for this study was 100 patients and duration of period was one year from September 2020 to August 2021. Thorough history with careful clinical examination of the lesions, general and systemic examinations were carried out. Routine investigations with skin biopsy in the form of incision / excision biopsy are carried out. Sections are stained with H&E and studied in both low & high power magnifications.

**Results**

Total of 100 patients with skin and appendageal tumors were included in this study. Out of this, around 53 patients were females and 47 patients were males. Male to female distribution was 1:1.12.

Age and sex wise distribution of tumors

The age distribution of the tumors seen, were predominantly between 21-40 years of age. In the age group of 21-30 years, there were 28 patients with 13 males and 15 females. Between 31 and 40 years age group, there were 21 patients with 9 males and 12 females. Then there was a jump noted, with 16 patients in more than 60 years age group with 5 males and 11 females (Table 1) The youngest patient in this study was 9 years of age and oldest patient was 72 years. The mean age is 39.7years.

**Table 1:** Age and Sex distribution of tumors

Age group	Male	Female	Total	Percentage
0 - 10 yrs	1	0	1	1%
11 - 20 yrs	2	6	8	8%
21 - 30 yrs	13	15	28	28%
31 - 40 yrs	9	12	21	21%
41 - 50 yrs	11	3	14	14%
51 - 60 yrs	6	6	12	12%

> 60 yrs	5	11	16	16%
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Tumor distribution based on frequency

The commonest among the benign tumors were seborrheic keratosis, epidermal cyst, neurofibroma and epidermal naevi. The commonest malignant tumor seen was basal cell carcinoma (Table-2).

**Table 2:** Tumor distribution based on frequency

TUMOUR	DISTRIBUTION
Seborrheic Keratosis	14
Epidermal cyst	13
Neurofibroma	11
Epidermal Naevi	11
Syringoma	9
Pyogenic Granuloma	5
Naevus Sebaceous	5
Steatocystoma multiplex	4
Trichoepithelioma	4
Dermatofibroma	4
Keratoacanthoma	3
Angiofibroma	3
Apocrine cystadenoma	1
Basal cell carcinoma	7
Squamous cell carcinoma	4
Malignant melanoma	2

i. Seborrheic Keratosis

A total of 14 cases were encountered. Among them 10 were females and 4 were males. Majority of the patients were in the 6th decade, around 64.3%. The age and sex distribution of the cases are depicted below. All the cases were asymptomatic. Only one female patient had complaints of pain over the lesion. The most common site for Seborrheic keratosis was over the face, especially around the eyelids. Just two patients had lesion over the trunk.

Investigations like ultrasound abdomen, upper GI endoscopy and stool for occult blood were done to rule out internal malignancy in suspected cases. Patients complained

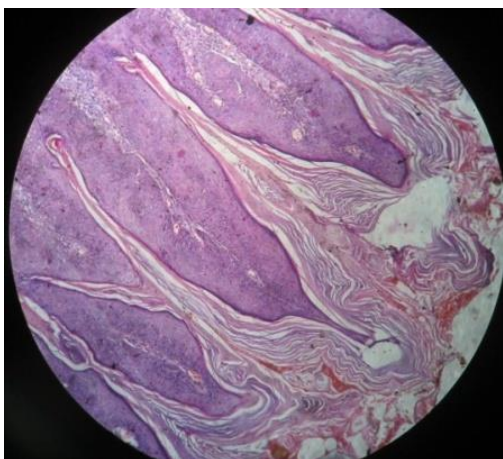
of cosmetic disfigurement commonly. There was interference with vision in 5 patients.

Incisional biopsy of single lesion was done for correlation. Hemotoxylin and eosin stains showed classical features of hyperkeratosis, irregular acanthosis and papillomatosis. Few lesions also showed presence of pseudo horn cyst. Lesions were treated with electrocautery in multiple sittings (Table-3 & Figure- 1).

**Table 3:** Age and Sex distribution of Seborrheic keratosis

Age	Male	Female	Total	Percentage
10 - 20 yrs	0	0	0	0
21 - 30 yrs	0	0	0	0
31 - 40 yrs	0	0	0	0
41 - 50 yrs	1	0	1	7.10%
51 - 60 yrs	2	2	4	28.60%
> 60 yrs	1	8	9	64.30%

**Figure 1:** Figure Histopathology of Seborrheic keratosis showing church spire pattern with hyperkeratosis, acanthosis and papillomatosis.



**Epidermal Cyst**

This lesion was observed in 13 patients. Out of this, 9 were males and 4 were females. One patient was in the age group less than 10.

**Table 4:** Age & Sex distribution of Epidermal cyst

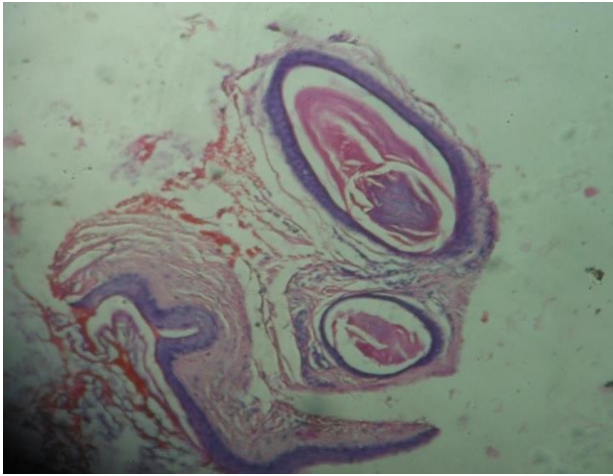
Age	Male	Female	Total	Percentage
10 - 20 yrs	1	0	1	7.70%
21 - 30 yrs	2	1	3	23%
31 - 40 yrs	5	3	8	61.60%
41 - 50 yrs	1	0	1	7.70%
51 - 60 yrs	0	0	0	0
>60 yrs	0	0	0	0

Most of the lesions were single and asymptomatic. Majority of them were located in the head and neck region. Two male patients had multiple sebaceous cysts in the scrotum and primary complaint was cosmetic disfigurement. Two patients had complaints of pain for which systemic antibiotics were given in view of infection. The maximum number of patients were in the age group of 31-40 years(61.6%)[Table 4].

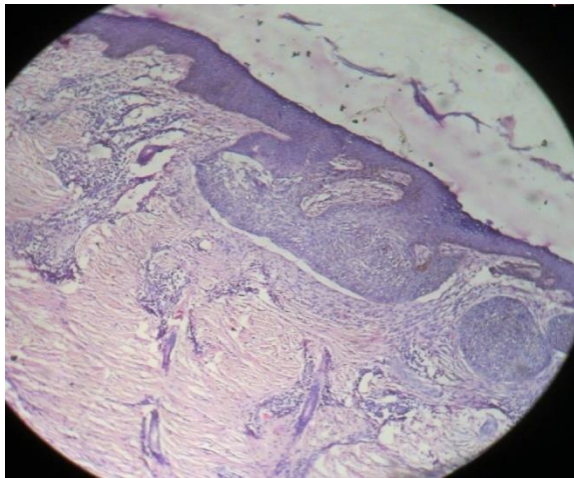
Lesions were rounded, firm, smooth surface, skin stretched and punctum was seen in eight cases. They were freely mobile over the underlying structures. Size varied from 1.5 cm to 4 cm. Excisional biopsy was done. Histopathology with H&E stain showed cyst in the dermis lined by all layers of true epidermis. Lamellated keratinisation was present in cyst in almost all cases. The 2 patients with multiple sebaceous cysts over the scrotum were referred to plasticsurgery (Figure 2).

**Figure 2:** Histopathology of Epidermal Cyst showing the cyst in the dermis with central lamellated keratin in the cavity.

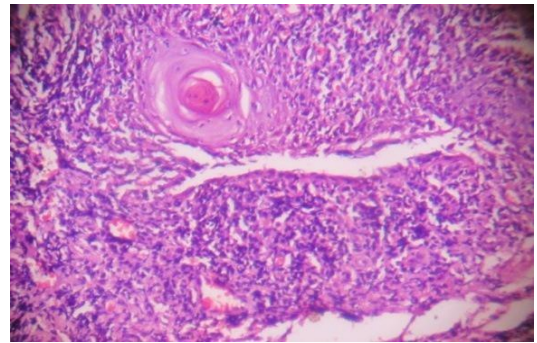




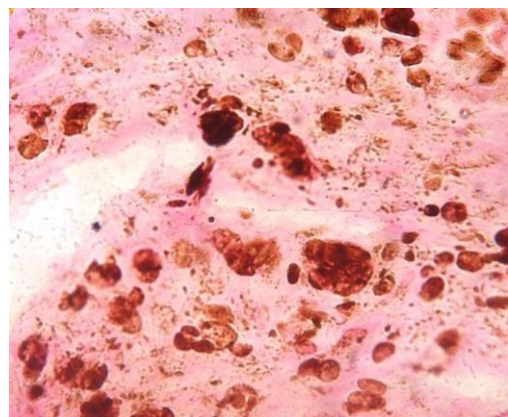
**Figure 3:** Histopathology of Basal Cell Carcinoma showing Islands of tumour cells with peritumoural lacuna; Basal Cell Carcinoma involving the cheek



**Figure 4:** Squamous cell carcinoma over the Leg in an Albinism patient; Histopathology of Squamous cell carcinoma showing Horn Pearls and Individual cell keratinisation



**Figure 5:** Malignant Melanoma over the Dorsum of the foot; Histopathology of Malignant Melanoma showing nests of large rounded melanoma cells



## Discussion

In a study carried out by Sahl et al [6] on clinicopathological correlation on skin tumours in Eastern India, syringoma was found to be the most common appendageal tumour. But in our study the most common tumour was seborrhoeic keratosis.

A descriptive clinicopathological study on non-melanoma skin cancers was conducted in Davangere by Adinarayan M et al [7] which showed Squamous cell carcinoma (83.9%) was more common than basal cell carcinoma (16.1%). But in our study basal cell carcinoma outnumbered squamous cell carcinoma.

### Seborrhoeic Keratosis

This was the most common benign tumour (14 %) in our study. According to the Study done by Yeatman et al [8] on the prevalence of seborrhoeic keratosis in 100 adults of Australian population, the prevalence of seborrhoeic keratosis was 12% in 15-25 years old and it increased to 100% in the age above 50 years. In this study also all the cases reported were above 50 years of age. In our study this tumour was found to be more common in females when compared to males and the most common site was found to be the face (around the eyelids). Cosmetic disfigurement was the main complaint in all the cases. Only one patient had complaint of pain over the lesion. Few patients also had complaints of interference with the vision.

All the lesions were multiple except for three cases who had single lesion. None were associated with any systemic malignancies. Malignant transformation was not seen in any of the lesions of our study group. As studied by Cascayo CD Eval, the lesions are mostly benign and malignant transformation to basal cell carcinoma, squamous cell carcinoma and bowens disease or anaplastic epithelioma occur rarely [9].

According to the study done in Pondicherry by Rajesh et al [10] Seborrhoeic keratoses appeared to be more common in middle- and old-aged, with equal sex distribution, predominantly affecting the head, neck, and trunk.

Similarly, a Korean study with 303 men aged 40–70 years showed considerable increase in the prevalence of Seborrhoeic keratosis from 78.9% at 40 years to 93.9% at 50 years and 98.7% in those over 60 years. A similar finding was made in our study also, with majority of the patients over the age of 60 years.

The lesions of seborrhoeic keratosis were classical in their morphology, distribution and histopathology in all the cases. One case showed a church spire pattern and in few cases, pseudo horn cysts were seen. Electrocautery and surgical excision were considered as the treatment modalities.

### Epidermal Cyst

This was the second common tumour among the benign tumours. Epidermal cysts were (13 %) in our study cases. Males outnumbered females in this group. Most of the

patients presented in their 4th decade (61.6%). All these patients were asymptomatic excepting the cosmetic disfigurement. Most common site of location was in head and neck region. All these findings in this study were consistent with the clinicopathological study conducted by Ohinist et al [11]. He also reported that 34 epidermal cysts had punctum in 40 % of the cases. In our study, punctum was seen in 8(61.5%) cases. Two of the male patients had multiple epidermal cysts over the scrotum. The indication for treatment in an epidermoid cyst over the penis and scrotum is in cases of secondary infection, urinary tract obstruction, pain on intercourse, and cosmetic reasons. The lesions in all the patients were typical in their morphology and histology. Complete excision of the cysts was done for all the patients. The 2 patients with multiple sebaceous cysts over the scrotum were referred to plastic surgery.

### Basal Cell Carcinoma

This was the most common malignant tumour of our study. It constituted 7% of total cases. In this study, it was most commonly reported among females (71.4%) in comparison to males (28.6%). All the patients were above forty years of age.

In the study conducted by Adinarayan M et al [7] on non melanoma skin cancers, the most common incidence was in the age group 60-80 years (80%). In this study too, the maximum number of patients were in the age group 60-80.

In our study, the forehead and cheek (head & neck) were observed to be the most common sites. This finding was consistent with the study by Malhotra P et al [12] on north Indian population, wherein the most common site for basal cell carcinoma was head and neck region. All the seven patients had solitary lesion. All were nodular type and one was a pigmented type. Ulcer type was also encountered.

Pain over the lesion was the chief complaint for four patients and it was asymptomatic in three patients. Cosmetic disfigurement was complained by all the seven patients. None of them had any other systemic or cutaneous malignancies. There was no significant family history in any of the seven cases. All the seven types were classical in their morphology and histopathology. The most common histological variant was the solid – nodular type which is consistent with the finding of a study by Malhotra P et al. Horn cysts were seen in all the seven cases.

Excisional biopsy with cosmetic reconstruction was done by the plastic surgery department. The patients were followed up every 6 months and further follow-up was also advised.

### Squamous Cell Carcinoma

A total of 4 cases were seen. It was the second most common tumour among the malignant tumours. All four patients were male. The commonest site was head and neck with face and cheek.

One patient with albinism had the tumour over the leg. In 2 other patients, association with DLE, Lichen planus were seen (Figure- 4).

In a study by Schwartz RA et al, they studied 75 cases of malignant skin tumours of which 30 cases were squamous cells carcinoma, basal cell carcinoma were 36 cases and malignant melanoma were 5 cases, bowens disease 1 case and malignant trichilemmoma 1 case [13]. Similarly in our study, basal cell carcinoma was commoner than squamous cell carcinoma. Complete wide excision and cosmetic reconstruction was carried out in the plastic surgery department.

#### Malignant Melanoma

This was the least among the 3 malignant tumors. It constituted two patients, both males and was in their 7th decade. Both did not have history of pre-existing melanocytic naevi. Both had nodular type of malignant melanoma and in both patients it was located over the foot. Pain and bleeding were the major complaints in both the patients. One had regional lymph node involvement. The morphology in one patient was typical. In other patient squamous cell carcinoma was considered as differential diagnosis. Histopathological findings in both cases were consistent with nodular type of melanoma (Figure- 5).

One patient had undergone excisional biopsy and the other had below knee amputation with en bloc inguinal lymph node dissection.

#### Conclusion

In the present study we conclude that a variety of benign skin lesions were seen in a wide age and sex wise distribution. The most common skin diseases observed in this study were skin appendage disorders, benign skin and adnexal tumors, pigmentation disorders, and papulosquamous lesions.

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