

## Eccrine Skin Adnexal Tumors: An Institutional Based Clinicopathological Study

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### ABSTRACT

**Background:** Histopathology is the gold standard of diagnosis with a limited role of Immunohistochemistry. The present study was Conducted to study the Eccrine skin Adnexal tumors with reference to their Anatomical location, age, sex of the individuals affected to determine their incidence and correlate them with other simulating studies.

**Material & Method:** A total of 106 specimens of skin Adnexal tumors were received in the department of pathology from department of Dermatology, surgery and other specialties from June 2002 to May 2012. Histopathological Examination was done on routine Hematoxylin and Eosin stained tissue sections. Special stains like PAS and recticulin was done where required.

**Results:** There were 21 males and 25 female patients constituting a ratio of 0.84 :1. The age range of these tumors was 31-40 years with a mean age range of 43.73 years. In the present study 46/106 (43.39%) cases of SAT's were of eccrine differentiation. Eccrine Acrospiroma was the most Common Benign Skin adnexal tumor of Eccrine differentiation constituting 25 out of 46 cases (54.34%) and Eccrine poroma was the least common benign Eccrine SAT. Out of 6 cases of Malignant Eccrine skin Adnexal tumors 3/46 were of malignant

eccrine acrospiroma and eccrine ductal carcinoma respectively.

**Conclusion:** We concluded that the pattern and biological behaviour of the tumors cannot be determined until the biopsies are submitted for HPE so histopathology is mandatory for diagnosis SAT and to know their potential biological behaviour for further management.

**Keywords:** Histopathology, Skin Adnexal Tumors, Benign, Malignant, SAT's.

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### INTRODUCTION

Skin Adnexal tumors Encompasses a wide Variety of tumors clinically presenting as asymptomatic papules & Nodules. These tumors are derived from multipotential undifferentiated cells present within the epidermis or its appendageal structures. These tumors are basically classified into four groups according to their adnexal differentiation towards- hair follicles, sebaceous glands, eccrine or apocrine glands.<sup>1</sup>

Most of the skin Adnexal tumors are benign but a malignant Counterpart of every SAT has been described, Malignant SAT's are rare but locally aggressive and have the potential for Nodal involvement and distant Metastasis with poor clinical outcome.

SAT's in which there is admixture of follicular, eccrine, sebaceous and apocrine differentiation are a source of diagnostic confusion. Histopathology is the gold standard of diagnosis with a limited role of Immunohistochemistry.<sup>2</sup> The present study was Conducted to study the Eccrine skin Adnexal tumors with reference to their

Anatomical location, age, sex of the individuals affected to determine there incidence and correlate them with other simulating studies.

### MATERIALS & METHODS

This study was conducted in the Department of Pathology. J.L.N. Medical College, Ajmer on patients attending the outdoor and Indoor departments of J.L.N. Medical College and associated groups of hospital in Ajmer

A total of 106 specimens of skin Adnexal tumors were received in the department of pathology from department of Dermatology, surgery and other specialties from June 2002 to May 2012. Clinical details of the patient were collected from Record office. Biopsy specimens received were fixed in 10% formalin for 12-36 hours, gross features were examined, specimens were then sampled and processed to prepare paraffin embedded blocks.

Histopathological Examination was done on routine Hematoxylin and Eosin stained tissue sections (Figure 1 & figure 2). Special stains like PAS and recticulin was done where required.

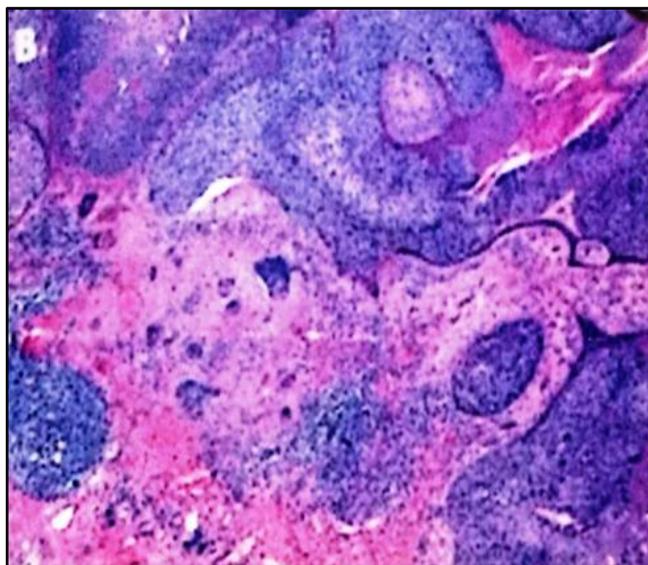
**RESULTS**

A total of 106 biopsy specimens of skin Adnexal tumors were histopathologically processed and examined. The present study analyzed 46 cases which were characterized under Eccrine differentiation on histological Examination. There were 21 males and 25 female patients constituting a ratio of 0.84 :1. (Table-1) The age range of these tumors was 31-40 years with a mean age

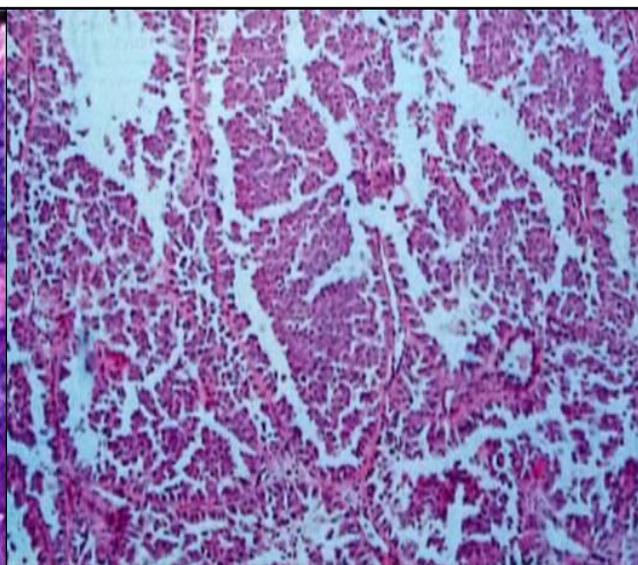
range of 43.73 years. The Youngest case was a 10yr. girl child & the oldest was a 85 yr. old male. (Table -2)

In the present study 46/106 (43.39%) cases of SAT's were of eccrine differentiation. Out of 46 cases 40 (86.95%) were benign and 6 (13.05%) were Malignant. (Table-3)

Eccrine Acrospiroma was the most Common Benign Skin adnexal tumor of Eccrine differentiation constituting 25 out of 46 cases (54.34%) and Eccrine poroma was the least common benign Eccrine SAT. Out of 6 cases of Malignant Eccrine skin Adnexal tumors 3/46 were of malignant eccrine acrospiroma and eccrine ductal carcinoma respectively. (Table- 4)



**Fig 1: POROMA: Multiple epidermal attachment with downgrowth into the dermis**



**Fig 2: Hideradenoma: Clear cell hideradenoma**

**Table 1: Sex wise Distribution of Eccrine SAT's**

Sex	n	%
Male	21	45.56
Female	25	54.34

**Table 2: Age wise Distribution of Eccrine SAT's**

Age range in years	n	%
1-10	1	2.17
11-20	1	2.17
21-30	8	17.39
31-40	14	30.43
41-50	9	19.56
51-60	7	15.21
61-70	5	10.86
71-80	0	-
81-90	1	2.17

**Table 3: Distribution of Benign and Malignant cases of Eccrine SAT's**

Type of Neoplasms	n	%
Benign	40	86.95
Malignant	6	13.05

**Table 4: SAT's with Eccrine Gland Differentiation**

Diagnosis	n	%
Eccrine Poroma	01	2.17
Eccrine Spiraderoma	06	13.04
Sycingoma	03	6.52
Chondroid Surgiagoma	05	10.86
Eccrine acrospiroma	25	54.34
Malignant Eccrine acrospiroma	03	6.52
Eccrine Ductal Carcinoma	03	6.52

**DISCUSSION**

Skin Adnexal tumors are rare neoplasms which are believed to originate from pluripotent stem cells in the epidermis which have the ability to differentiate towards any of the skin append- ages, so according to their differentiation they have been classified into 4 types-pilar, sebaceous, eccrine or apocrine.

In many lesions the differentiation is uniform and the tumor can be recognized and categorized on the basis of its resemblance to normal skin appendage. In other cases the pluripotent stem cells may differentiate towards more than one type of appendage with Varying degrees of maturation. The clinical presentation of skin Adnexal tumors is non-specific and diagnosis is based on histopathology of the lesion.

In the present study maximum cases were of eccrine origin 46/106 (43.39%) These results are similar to studies done by Chayanika

et al<sup>3</sup> 36/70 (51%) and Nair et al<sup>1</sup> 17/33 (51/5%) and also studies done by Ankit et al<sup>4</sup> & Mukund et al<sup>5</sup> showing sweat gland (eccrine) tumors to be the largest group constituting 42.86% (24/56) and 52% (26/50) respectively.

Maximum eccrine SAT's in the present study were benign 40/46 (86.95%) and only 6/46 (13.05%) were Malignant. This is consistent with other studies done by Chayanika et al<sup>3</sup>, Mukund et al<sup>5</sup> and Muktanjalee et al<sup>2</sup> which had 92.77%, 96.15%, 71.42% benign tumors, Malignant tumors in these studies were 2.78%, 3.85% & 28.57% respectively whereas no malignant eccrine SAT was reported in study done by Ankit et al<sup>4</sup> & Nair et al<sup>1</sup>. Female preponderance was seen in the present study with a M:F ratio of 21/25 (.84:1) this is in Concordance with other studies done by Chayanika et al<sup>3</sup>. Radhika et al.<sup>6</sup> and Reddy et al.<sup>7</sup>, who reported 77.14% & 69.41%, benign and 29.63% and 30.59%, malignant lesions, respectively.

Eccrine acrospiroma was the most Common sweat gland tumor in the present study constituting 26/46 cases (54.34%) this is similar to studies done by Chayanika et al<sup>3</sup>, Ankit et al<sup>4</sup>, Mukund et al<sup>5</sup> & Muktanjalee et al<sup>2</sup> which also show 44.44%, 57.14%, 42.30% and 57.14% cases of eccrine acrospiroma respectively making it the most common eccrine SAT.

However Nair P.S et al<sup>1</sup> reported syringoma to be the commonest eccrine SAT in their study 42.42%. Radhika et al. observed that the most common benign tumor is nodular hidradenoma followed by sebaceous naevus.<sup>6</sup>

SAT's have a wide range of age distribution Chayanika et al<sup>3</sup> reported more cases in the age group of 20-39 yrs whereas Ankit et al<sup>4</sup> reported them in 41-60 yrs. In our study maximum cases were in the age group of 31-40 yrs.

## CONCLUSION

The overall incidence of skin Adnexal tumors is very low. Incidence of benign Adnexal tumors is more as compared to the malignant ones. SAT's showing sweat gland differentiation are seen more frequently. In our institutional study Eccrine SAT's were the commonest. The pattern and biological behaviour of the tumors cannot be determined until the biopsies are submitted for HPE so histopathology is mandatory for diagnosis SAT and to know their potential biological behaviour for further management.

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