

Original Research Article

Clinicopathological Study of Cutaneous Adnexal Tumors Showing Sweat Gland Differentiation

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Abstract

Background: Cutaneous adnexal tumor is a collective term for tumors arising from various adnexal units of the skin. These tumors share many common features even though they differentiate along one line. Adnexal tumors are relatively uncommon and they pose a diagnostic difficulty due to morphological overlap. They are classified according to appendageal differentiation. These tumors have to be differentiated from other primary cutaneous neoplasm and cutaneous metastasis. Adnexal tumors are significant because some can give a clue to the association of internal visceral malignancy. *Methods:* All adnexal tumours showing sweat gland differentiation diagnosed over the period of 5 years was studied. The Haematoxylin and Eosin stained slides were analysed for patterns to differentiate each entity from other cutaneous tumours. *Result:* Thirty adnexal tumours were diagnosed over a period of 5 years. Clinical presentations varied from discrete swellings and nodules to ulcerated masses. Most of the lesions were distributed in the head, neck and extremities. Histologically 26 cases were benign and 4 cases were malignant. Majority of the tumours were encountered in females (18 out of 30). Commonest tumour encountered was eccrine poroma followed by eccrine spiradenoma and Syringocystadenoma papilleferum. Malignant tumours encountered were Porocarcinoma and hidradenocarcinoma. *Conclusion:* Cutaneous adnexal tumors are complex due to their diverse origin and varied histological appearance. Sweat gland tumors are the commonest tumors encountered. Many of these entities have morphological overlap. Although majorities of adnexal tumors are benign, malignant counterparts are also rarely encountered, causing further diagnostic difficulties. Hence thorough histopathological examination is required for final diagnosis.

Keywords: Adnexal Tumors; Sweat Gland; Eccrine Poroma; Porocarcinoma.

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Introduction

The adnexa are part of the skin and are composed of different kinds of cells that can give rise to a wide variety of tumors. It is composed of sweat glands, sebaceous glands and hair follicles, all of which share the same origin [1].

Adnexal tumors are relatively uncommon and exact prevalence is unknown. They pose a diagnostic difficulty due to morphological overlap. Common sites are head and neck, trunk, and extremities. They are classified according to appendageal differentiation [2].

These tumors have to be differentiated from other primary cutaneous neoplasm and cutaneous metastasis. Adnexal tumors are significant because some can give a clue to the association of internal visceral malignancy [2].

The sweat gland tumors were the largest group encountered most of the studies. The complex nature of the sweat gland may be responsible for this wide distribution of tumors [3,4].

Most of the tumours present as asymptomatic papules or nodules and often difficult to diagnose clinically however anatomic location, number and distribution of lesions provide important clue [3]. They are however confirmed by histopathology, and immunohistochemistry may help in confirmation of the diagnosis [5].

This study was therefore undertaken to analyse adnexal tumours of the skin for their morphological, clinical, and histological features and to group them using the International Classification of World Health Organization.

Aims and Objectives

1. To study the spectrum of cutaneous tumors with sweat gland differentiation with respect to age, sex and location.
2. To study the histomorphology of various sweat gland tumors.

Materials and methods

This Retrospective, descriptive study was conducted in Department of pathology, Shimoga institute of medical sciences, Shimoga over the period of 5 years from June 2012 to June 2017. All adnexal tumours showing sweat gland differentiation diagnosed was studied. Clinical data's were obtained from the histopathology

requisition forms submitted with the tissue specimens to the Department of Pathology.

Respective Hematoxylin and Eosin stained slides were retrieved from the departmental archives and slides were revived and analyzed for patterns to differentiate each entity from other cutaneous tumors. Descriptive statistics was done using Microsoft excel.

Results

Thirty adnexal tumours were diagnosed over a period of 5 years. Clinical presentations varied from discrete swellings and nodules to ulcerated masses. Most of the lesions were distributed in the head, neck and extremities. Histologically 26 (86.6%) cases were benign and 4 (13.3%) cases were malignant (Table 1). Majority of the tumours were encountered in females (Table 2). Commonest tumour encountered was eccrine poroma (Figure 1 and 2) followed by eccrine spiradenoma (Figure 3 and 4) and Syringocystadenoma papilleferum. Malignant tumours encountered were Porocarcinoma (02 cases) and hidradenocarcinoma (2 cases).

Table 1: Table showing the frequency of cases

Tumour	No of Cases
Benign (86.6%)	
Eccrineporoma	08(26.6%)
Eccrine Spiradenoma	06(20%)
Syringocystadenoma Papilleferum	04(13.3%)
Nodular Hidradenoma	03(10%)
Cylindroma	02(6.6%)
Chondroid Syringoma	02(6.6%)
Spiradenocylindroma	01(3.3%)
Malignant (13.3%)	
Hidradenocarcinoma	02(6.6%)
Porocarcinoma	02(6.6%)
Total	30(100%)

Table 2: Table showing the sex wise distribution of cases

Tumour	No of Cases	
	Male(12)	Female(18)
Eccrineporoma	03	05
Eccrine Spiradenoma	02	04
Syringocystadenoma Papilleferum	02	02
Nodular Hidradenoma	01	02
Hidradenocarcinoma	00	02
Porocarcinoma	02	00
Cylindroma	00	02
Chondroid Syringoma	01	01
Spiradenocylindroma	01	00
Total		30

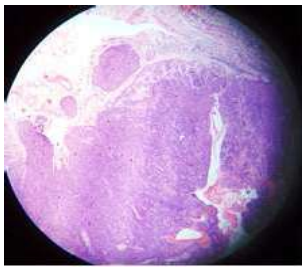


Fig. 1: Microphotograph of Eccrine poroma (H&E, X10)

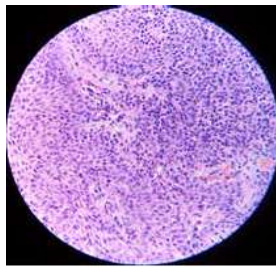


Fig. 2: Microphotograph of Eccrine poroma (H&E, X40)

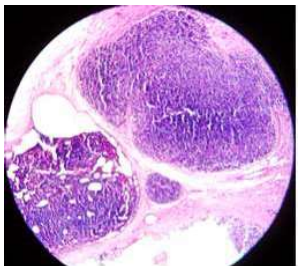


Fig. 3: Microphotograph of Eccrine spiradenoma (H&E, X10)

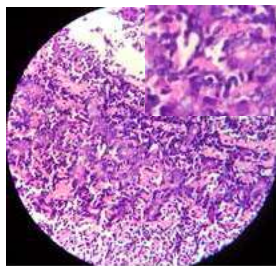


Fig. 4: Microphotograph of Eccrine spiradenoma (H&E, X40)

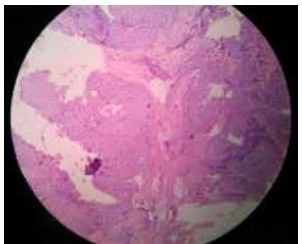


Fig. 5: Microphotograph of Porocarcinoma (H&E, X10)

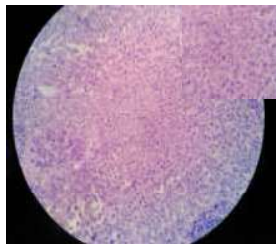


Fig. 6: Microphotograph of Porocarcinoma (H&E, X40)

Discussion

Sweat gland tumours are most commonly encountered tumours among adnexal tumours in most of the studies.

Head and neck region was the most common site of occurrence of the tumours in the studies by Sharma A et al., Deka M et al. and Vani et al. which was similar to our study [3,5,6].

In our study females were most commonly affected with Male: Female ratio of 1:1.5. this was in concordance with Vani et al., and Saha et al. who reported a male: female ratio of 1:1.68, and 1: 1.88, respectively [6,7].

Sweat gland tumours have a wide range of age distribution. In our study, age of the patients ranged from 17 to 60 years. Most of the cases were distributed in the age group of 30-40 years which was similar to study done by Radhika et al. [8]

However, Sharma et al found the maximum cases in the age group of 51-60 years [3].

Incidence of benign tumours is more as compared to malignant cases. In present study 26 (86.6%) tumours were benign and 4 (13.3%) tumours were malignant. Similarly, Gandhi R et al and Deka M et al showed 25% and 36.6% malignant tumours respectively [4, 5].

Eccrine poroma was the most commonly encountered benign tumour (8 out of 30 cases) in our study (Figure 1 and 2). Sharma A et al. and Deka M et al. showed nodular hidradenoma as commonest tumour [3,5].

Eccrine Porocarcinoma (Figure 5 and 6), a malignant sweat gland tumor, represents only 0.005% of epithelial cutaneous neoplasms. The first reported case was attributed to Pinkus and Mehregan [9]. Most of the tumours occurs in elderly age group. Luz MD et al. studied 8 cases of Porocarcinoma. The age of presentation was ranged from 50 - 81 years with mean age of 67 year [10]. In contrast, our study we found 2 cases, in which one case was presented in the 17 younger female which was very unusual.

Conclusion

Cutaneous adnexal tumours are complex due to their diverse origin and varied histological appearance. Sweat gland tumours are the commonest tumours encountered. Many of these entities have morphological overlap. Majority of the tumours are benign. Although majorities of malignant counterparts encountered in elderly age group, rarely they may see in younger people causing further diagnostic dilemma. Hence thorough clinicopathological examination is required for final diagnosis.

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