



Histopathological Study of Skin Adnexal Tumor – A 5 Year Study

Authors

Dr Sandhya Bordia, Dr Swati Damor, Dr Nitin Chaudhary, Dr Seema Meena

RNT Medical College, Udaipur, Rajasthan

Corresponding Author

Dr Swati Damor

Address – 394, Power House Colony, Kherwara, Udaipur, Rajasthan (313803), India

Mobile no – 9461593409, Email: swatidmr@gmail.com

Abstract

Background: *Skin adnexal tumors present a wide variety of architectures, which often present problems in classifying is the most challenging in pathology.*

Material and Method: *Biopsy samples received in 10% neutral buffered formalin. After fixation and tissue processing, sections were embedded in the liquid paraffin and later stained by H & E then mounted and examined under microscope.*

Results: *The present study of 53 skin adnexal tumours extended over a period of five years from January 2013 to December 2017. The overall incidence (i.e. 0.21%) of adnexal tumours was very less (53 cases) as compared to the total number of biopsies (24267) received in the histopathology section during that period.*

Conclusion: *An overall incidence of skin adnexal tumours is very low in India. The incidence of benign skin adnexal tumours is more as compared to the malignant. Clinically it is difficult to detect or make correct diagnose these tumours as they do not possess very characteristic clinical features. Skin adnexal tumours can found anywhere over the body, however head and neck regions are the most common site*

Keywords: *Histopathology, Neoplasm, Skin.*

Introduction

In English language no other organ of the body is invoked more frequently or more flavourfully than the 'Skin'. The skin is composed of a number of interdependent cell types. Because of the exposed position, the skin is subjected to many different types of injuries- physical, chemical and infective in origin- hence affecting the delicate homeostasis the exist among skin cells¹. Human skin contains different appendageal structures having some special functions, like the sweat glands, the sebaceous glands, the hair follicles, the nails and

the breast (i.e. Sebaceous, eccrine and apocrine glands and their modifications)². Tumours arising from the epidermal appendages occur comparatively rare among Indians. The behaviour of these lesions is clinically unpredictable hence surgeons usually misdiagnose these lesions and try to neglect this group of tumours. This study is done to analyse adnexal tumours of the skin for their architectures, clinical and histopathological features and to group them according to classification given by World Health Organization^{3,4}.

Material and Method

The study was conducted in the histopathology section of Pathology Department, RNT Medical College, Udaipur Rajasthan, from year 2013 to 2017. Detail clinical workup on patient was collected. The specimen obtained after surgical exploration of patients were examined externally and then opened as per conventional method after overnight fixation in 10% formalin & processed in the automatic tissue. All the slides were stained with routine H&E.

Results

There were a total of 24267 biopsy specimens received for histopathological examination during a period of five years from January 2013 to December 2017. In present study tumour and tumour like conditions arising from the adnexal structures of the skin (sweat glands, sebaceous glands and hair follicles) were analyzed for the same period. We found a total of 53 skin adnexal tumours with percentage incidence of 0.21 %.

Table No. 1: Table illustrating the number of benign and malignant skin adnexal tumours with their percentage incidence

SR.NO	TUMOURS	NO.OF CASES	PERCENTAGE INCIDENCE (%)
1.	BENIGN OF ADNEXAL	42	79.25
2.	MALIGNANT ADNEXNAL TUMOURS	11	20.75
	TOTAL	53	100.00

53 adnexal tumours included in the present study were divided into benign and malignant categories. We found that out of the total, benign adnexal tumours constituted 42 cases (79.25%) and malignant adnexal tumours constituted 11 cases (20.75%). Amongst the malignant tumours sebaceous carcinoma was only malignant tumour observed and constituted largest group.

Table No. 2: Table illustrating the percentage of observed adnexal tumours according to the direction of differentiation.

SR. NO.	DIRECTION OF DIFFERENTIATION	NO. OF CASES	PERCENTAGE INCIDENCE (%)
1.	Sweat gland tumours	20	37.74
2.	Sebaceous gland tumours	16	30.19
3.	Hair follicle tumours	17	32.07
	TOTAL	53	100.00

We found that the Sweat gland tumours constituted the largest group with 20 cases (i.e. 37.74%); while sebaceous gland tumours formed the smallest group of 16 cases (i.e.30.07%). The hair follicle tumours were represented by 17 cases (i.e. 32.07%).

Table No. 3: Table illustrating the percentage of observed adnexal tumours with the sweat gland differentiation.

SR. NO.	TUMOURS	NO. OF CASES	PERCENTAGE INCIDENCE (%)
	ECCRINE DIFFERENTIATION		
1.	Chondroid syringoma	3	5.67
2.	Eccrine poroma	4	7.55
3.	Nodular hidradenoma	9	16.98
	APOCRINE DIFFERNTIATION		
4.	Cylindroma	2	3.77
5.	Syringocystadenoma Papilliferum	2	3.77
	TOTAL	20	

The commonest observed tumour with sweat gland differentiation was Clear cell hidradenoma with 9 cases (i.e. 16.98%) followed by eccrine poroma with 4 cases (i.e. 7.55%). Chondroid syringoma was represented by 3 cases (i.e. 5.67%); while apocrine hidrocystoma and Syringocystadenoma papilliferum accounted for 2 cases each constituting 3.77% of the total adnexal tumours.

Table No. 4: Table illustrating the percentage of observed adnexal tumours with the sebaceous gland differentiation.

SR. NO.	TUMOURS	NO. OF CASES	PERCENTAGE INCIDENCE (%)
1.	Sebaceous adenoma	1	1.89%
2.	Sebaceous hyperplasia	2	3.77%
3.	Sebaceous carcinoma	13	24.52%
	TOTAL	16	30.18%

We observed sebaceous gland carcinoma to constitute the single age group with 11 cases i.e. 20.75%. Only one case (1.89%) of sebaceous and two cases (3.77%) of Sebaceous hyperplasia were observed.

Table No. 5: Table illustrating the percentage of observed adnexal tumours with the hair follicle differentiation.

SR. NO.	TUMOURS	NO. OF CASES	PERCENTAGE INCIDENCE (%)
1.	Trichoblastoma	2	3.77%
2.	Trichofolliculoma	1	1.89%
3.	Pilomatricoma	9	16.98%
4.	Pilar tumour	5	9.44%
	TOTAL	17	32.08%

Most common tumour with hair follicular differentiation in our study was observed to be pilomatricoma represent by 9 cases i.e. 16.98% followed by proliferating trichilemmal tumour with 5 cases i.e. 9.44%. Trichoblastoma contributed with 2 cases i.e. 3.77%. One case i.e. 1.89% of sebaceous variant of Trichofolliculoma was also found.

Discussion

Adnexal tumours of skin represent a varied and extensive spectrum of lesions with hair, sebaceous, apocrine and eccrine differentiation having both benign and malignant counterparts. Comprehensive studies including all the adnexal tumours, conducted by foreign workers are very low. They mostly deal either with individual tumour or with a group of adnexal tumours. Hence we have used studies by foreign workers wherever possible. A study by Jayalakshni P, Looi LM

(1996)⁵ from university of Malaya included 112 cases over a period of 13 years.

The Indian studies we have used for comparison are as follows:

A study by Sirsat and kail (1964)⁶ who reported 51 cases in 24 years; Vaishnav and Dharkar (1974)⁷ who studied 18 cases in 12 years; Reddy et al (1982)⁸ with 85 cases over a period of 11 years, Solanki et al (1989)⁹ with 94 cases over 24 years. A study Bobhate et al (1998)¹⁰ has also been used for comparison. They have studied 120 cases of skin adnexal tumour and classified them according to WHO classification.

The present study of 53 skin adnexal tumours extended over a period of five years from January 2013 to December 2017. The overall incidence (i.e. 0.21%) of adnexal tumours was very less (53 cases) as compared to the total number of biopsies (24267) received in the histopathology section during that period. The other Indian workers have also reported a similar low incidence.

Conclusions

In the Indian people, an overall skin adnexal incidence of tumours is very low. The incidence of benign skin adnexal tumours is more as compared to the malignant ones. Clinically it is difficult to detect or correctly diagnose these tumours as they do not possess any characteristic clinical features. Skin adnexal tumours can occur anywhere on the body, however head and neck region constitutes the most common site. Majority of the tumours could be classified in to different subgroups on the basis of light microscopy alone. Skin adnexal tumours showing sweat gland differentiation are seen more frequently. Nodular hidradenoma is the commonest tumour with sweat gland differentiation, while Pilomatricoma is most common type of hair follicle tumour. Amongst the tumour with sebaceous gland differentiation, sebaceous carcinoma is largest of all the lesions.

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