



Histopathological types of skin tumors in Barak Valley: A hospital based study

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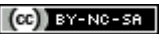
ABSTRACT

Neoplasms of skin and subcutis are classified as keratinocytic, melanocytic, appendageal, hematolymphoid, and soft tissue tumors and histopathological assessment is essential for their diagnosis. A study was undertaken to evaluate the histopathological types of skin tumors in Barak Valley of Assam, India as data regarding skin tumors is sparse and not well documented. Of a total of 170 skin biopsies studied over a period of one and a half years, there were 50 cases of skin tumors, of which 29 were benign and 21 were malignant. The mean age of patients with benign tumors was 32.42yrs and that of malignant tumors was 58.27 yrs. The male to female ratio for all tumors was 1.3:1. The most common category was of keratinocytic tumors (22 cases), followed by adnexal tumors. Most common malignant tumor was squamous cell carcinoma. Head and neck was the most commonly involved region.

Keywords: skin tumor, types, histopathology.

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INTRODUCTION

Skin is the largest organ in the body and therefore a large variety of tumours, both benign and malignant are encountered in common clinical practice. Neoplasms of skin and subcutis are further classified as keratinocytic, melanocytic, appendageal, hematolymphoid, and soft tissue tumors.^[1] Different cancer registries in India have estimated the cumulative incidence of skin cancer varying from 0.5 to 2 per 100000 population.^[2] Incidence of skin tumours has shown an increasing trend all over the world in the past several decades which is partly attributed to increasing sun exposure. However, the overall incidence is still lower in India, possibly due to high melanin content in Indian skin, as melanin is believed to protect against ultraviolet rays of the sun.

Clinical diagnosis of different entities is often difficult, particularly for appendageal tumors as most of these present to the clinician as asymptomatic papules or nodules.^[3] Even histopathological diagnosis is difficult at times due to complexity of histologic, ultra structural and histochemical study, complex nomenclature, multiple classifications and conflict regarding histogenesis of some of the tumors and relative rarity.^[1] This study was undertaken to evaluate the different histopathological types of skin tumors in Barak Valley of Assam, in north eastern region of India as data regarding skin tumors is sparse and not well documented, particularly in case of adnexal neoplasms of skin.

Aims and objectives: 1. To study the different histopathological types of skin tumors in Barak Valley of Assam
2. To evaluate the common sites of occurrence of benign and malignant skin tumors..

MATERIALS AND METHODS

This study was carried in the department of Pathology in a tertiary care teaching hospital in Barak Valley. Cases of skin tumors were studied over a period of one and a half years. Data regarding clinical presentation and diagnosis was obtained from clinical records and requisition forms of the patients. All the biopsies received in the histopathology section were immediately fixed in 10% formalin for 24 hours. Gross features of the specimen were noted. Multiple sections of the specimen were taken. Then they were processed and embedded in paraffin. Haematoxylin and eosin stained sections were evaluated by light microscopy. For most of the tumors, classification was done according to World Health Organization classification of skin tumors – 2006. However, we also included cutaneous neurofibromas and nevus

sebaceous among skin tumors, although these are not included in the WHO classification of skin tumors. Although basal cell carcinoma is believed by many to be a tumor of adnexal origin to be classified as trichoblastic carcinoma, we have included it under keratinocytic tumors as per WHO 2006 classification. The study was conducted in accordance with institutional ethical guidelines.

Inclusion criteria: All benign and malignant tumors that came to the pathology department for histopathological examination during the study period.

Exclusion criteria:

1. All non tumorous conditions of skin
2. Tumors of mucous membranes were excluded from the study.

Statistics: The data was analysed using descriptive statistics.

RESULTS AND OBSERVATIONS

Of a total of 170 skin biopsies studied over a period of one and a half years, there were 50 cases of skin tumors diagnosed on histopathologic examination, of which 29 were benign and 21 were malignant. Age group of the patients ranged from 9 yrs to 90 yrs. The mean age of patients with benign tumors was 32.42yrs and that of malignant tumors was substantially higher at 58.27 yrs. The male to female ratio for all tumors was 1.3:1. In case of benign tumors, the ratio was 1.4:1 while for malignant tumors, male to female ratio was 1.3:1. The most common category was of keratinocytic tumors (22 cases), followed by adnexal(11 cases), soft tissue tumors (9 cases), melanocytic (8 cases). We did not encounter any hematolymphoid tumor in our study. We included the two cases of cutaneous neurofibroma under soft tissue tumors. The most common malignant tumor was squamous cell carcinoma (12 cases) including variants like verrucous carcinoma and basaloid squamous cell carcinoma, followed by malignant melanoma (3 cases) and basal cell carcinoma (3 cases). Most common benign tumor were the nevi (5 cases) followed by seborrheic keratosis (3 cases) and pilomatricoma (3 cases). (Table1) The commonest site of involvement was head and neck (50%) followed by lower extremities (28%) and upper extremities (16%). Scalp was the most commonly involved area in the head and neck region (Table2).

DISCUSSION:

Skin tumors are associated with considerable morbidity, disfigurement, and their treatment is costly. Therefore correct and early

histopathological diagnosis of these tumors is essential.

The knowledge of histopathological patterns can help in diagnosis, determination of prognosis and planning effective management of these tumors.^[4] In the study conducted in our institute, the ratio of benign to malignant tumors was found to be 1.4:1 i.e . 58% were benign and 42% were malignant. Har – Shai et al^[5] reported 68.4% benign tumors and 31.6% malignant tumours whereas in the study by Bari et al.^[6] incidences of benign and malignant tumours was 51.2% and 48.8% respectively. Studies by Sheenan Azad et al^[7] in Northern India reported incidences of 72.8% benign and 27.2% malignant with a benign to malignant ratio of 2.7:1. In most the studies, benign tumors outnumbered their malignant counterpart. However, Gundalli et al.^[8] in their study from south India reported a preponderance of malignant over benign tumors (39.84% benign, 60.16% malignant) as also Kapoor et al^[9] who found higher frequency of occurrence of malignant neoplasms of skin.

Among benign tumors, the average age was 32.42 years with a male to female ratio of 1.4:1, showing a male preponderance. Narhire et al^[3] reported a mean age of 46.04 years with a male female ratio of 1:1.2 . A female predominance was also noted by Sheenam et al^[7] and Gundalli et al^[8] who reported a male female ratio of 1:1.1 and 0.6:1 respectively.

In case of malignant tumors, the mean age was 58.27 years. Narhire reported a mean age of 56.54 yrs which is comparable to our study. . Sheenam et al^[7] reported mean age of 55.8 years while Bahamdan and Morad^[10] found that the mean age was 61.0 years. Gundalli S et al^[8] found most benign neoplasms in 3rd – 5th decade and malignant in 6th – 8th decade while Bari V et al^[6] reported the occurrence of most benign neoplasms in 3rd decade and malignant in 7th decade. The male to female ratio for malignant tumors in our study was 1.3:1. Studies by Bahamdan and Morad^[10], Heidari and Najafi^[11], Narhire et al^[3], Bari et al.^[6] , Sheenam et al^[7] all reported a male predominance in malignant skin tumors .

As a group, adnexal tumors were the most common group of benign tumors followed by soft tissue tumors while the commonest encountered benign tumor was nevus. In the study by Narhire et al^[3] commonest benign tumor group was soft tissue tumors (32%) followed by appendageal tumors (28%) and commonest seen benign tumor was verruca. In the study of Bari V et al^[6] commonest encountered were keratinocytic tumors followed by soft tissue tumors and commonest tumor was verruca, while in the study of Gundalli S et al^[8] commonest encountered group was appendageal tumor with melanocytic tumor coming second. These variations could be due to difference in sample size, duration of study as well as geographical and ethnic differences in susceptibility of the study populations. The most common malignant tumor in our study was squamous cell carcinoma, a finding reflected in various other studies. [3] [6] [7] [8]

The most common site in the present study was head and neck (50%) followed by lower extremities(28%) and upper extremities(16%).In the head and neck region, scalp was the most common site followed by eyelids. Other studies also found head and neck region to be most commonly involved, followed by the extremities. [6] [3]

CONCLUSION

Our study found benign tumors to outnumber malignant tumors of skin in their occurrence in Barak Valley region of north east India. Males were more commonly affected by both benign and malignant tumors. While nevi were quite frequent among benign growths, squamous cell carcinoma was the commonest malignant tumor like in other parts of India. This study highlighted the common tumors in this geographical area where literature regarding skin tumors is sparse and inadequate. We would also like to emphasise the need for histopathological typing of these tumors which is essential to patient management.

Table1. showing different histologic types of skin tumors.

Category	Tumor	Total no.s	Percentage
Keratinocytic tumors			
Benign	Keratoacanthoma	1	2%
	Seborrhoeic keratosis	3	6%
	Squamous papilloma	2	4%
Malignant	Squamous cell carcinoma	12	24%
	Basal cell carcinoma	3	6%
Adnexal tumors			
Benign	Pilomatricoma	3	6%
	Trichoblastoma	1	2%
	Sebaceous adenoma	1	2%
	Eccrine spiradenoma	1	2%
	Syringoma	1	2%
	Benign eccrine hidrocystoma	1	2%
	Benign adnexal tumor of follicular differentiation	1	2%
	Nevus sebaceous	1	2%
Malignant	Malignant adnexal tumor of follicular differentiation	1	2%
	Sebaceous carcinoma	1	2%
Melanocytic tumors			
Benign	Intradermal nevi	4	8%
	Compound nevus	1	2%
Malignant	Malignant melanoma	3	6%
Soft tissue tumors			
Benign	Dermatofibroma	1	2%
	Fibroanthoma	1	2%
	Capillary hemangioma	1	2%
	Keloid	2	4%
	Hypertrophied scar	1	2%
	Cutaneous neurofibroma	2	4%
Malignant	Dermatofibrosarcoma protuberans	1	2%

Table 2. showing sites of involvement by the tumors.

Site of occurrence	Benign (in no.s)	Malignant(in no.s)	Total(in no.s)
Head, neck and face	16	9	25
Lower extremities	4	10	14
Upper extremities	6	2	8
Others	2	1	3

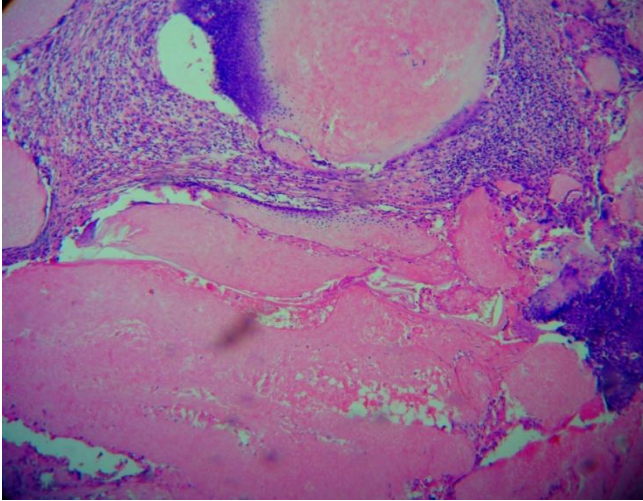


Fig 1. showing histological picture of pilomatricoma (H &E, 40X)

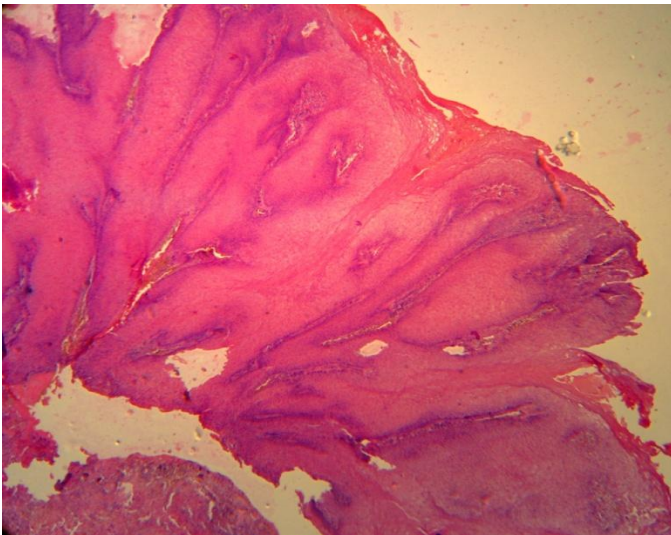


Fig 2 showing verrucous carcinoma (H&E,40X)

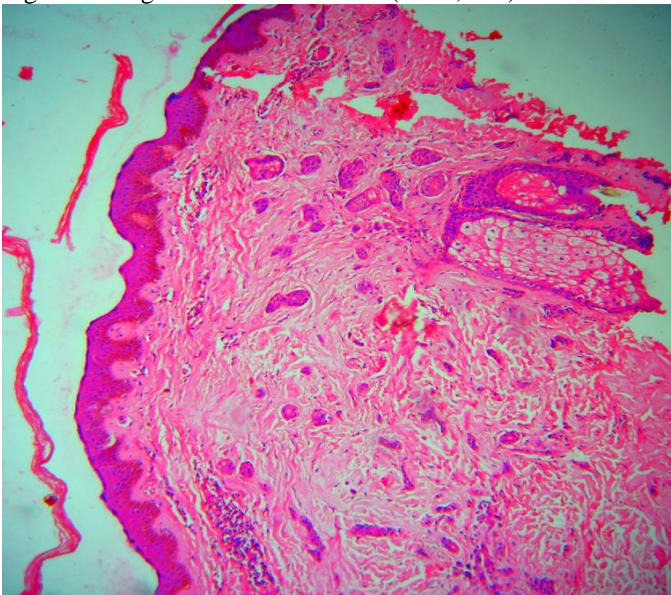


Fig 3. showing structure of a syringoma (H&E,10X)

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