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CLINICOPATHOLOGICAL STUDY OF NON MELNOCYTIC EPIDERMAL AND APPENDEGEAL TUMOURS

Pathology

Dr.Vindu Srivastava* MD PathAssociate professor of pathology, Sri Balaji Medical College and Hospital, Chrompet, Chennai-44 * Corresponding Author

Dr. P. Rekha MD path Department of pathology, Sundaram Medical Foundation, Anna nagar , Chennai-40.

ABSTRACT

Background – Neoplasms of skin comprise a wide spectrum of benign and malignant tumours that exhibit morphological differentiation towards one or more of structures found in normal skin. Benign tumours like seborrhoeic keratosis, skin tags barely attract the attention of the patient or the treating clinician and are of cosmetic important . In this study the histological features of selected but important benign and malignant non melanocytic skin tumours of keratinocytic and appendegeal origin were studied with emphasis on histodiagnostic approach .

Material and method: A total of 102 histologically diagnosed skin tumours were included in this study conducted over period of 24 months.

Result: Out of 102 cases studied there were 57 (55.88%) keratinocytic and 45 (44.11%) appendegeal tumours. 42.2% of patients were in the age group between 21 and 40 years tho all agc groups were affected.Males and females were equally affected in this study. Malignant tumours were common in adults over 50 years.The most common benign tumour of keratinocytes was seborrhoeic keratosis ,

BCC was most common malignant tumour . Benign appendegeal tumours 43 (95.55%) outnumbered malignant counterpart 02(4.44%). Pilomattricoma was commonest benign appendegeal tumour and clinically seen in younger age group.

Conclusion: Non melanocytic cutaneous and appendegela tumours commonly presented in age group of 21-40 years with no sex predilection. Most lesion presented as nodule in region of head and neck.

Malignant lesion clinically presented as ulcers.Keratinocytic tumours more common than appendegeal tumours Almost all appendegeal tumours were beign except rare sebaceous carcinomas .Seborrhoic keratosis was commonest keratinocytic tumour while pilomatricoma was coomonest appendegeal tumour. Histopathological examination along with clinical clues is gold standard for diagnosis .

KEYWORDS

Keratinocytes, Benign, Appendegeal , Malignant, Seborrhoiec keratosis

INTRODUCTION

Neoplasms of skin comprise of a wide spectrum of benign and malignant tumours with morphological differentiation towards one or more of structures found in normal skin .The cutaneous tumours comprise an extremely diverse and sizeable collections of pathologic entities and can be categoried into hamartomas, reactive hyperplasias, and neoplasias reflecting their biologic behaviour.(3) Some of the skin tumours are autosomal dominantly inherited. These may not manifest until puberty. Examples are Trichoepithelioma, Cylindroma, Basal cell nevus (2 , 5) .

The keratinocytic tumours are clinically and histopathologically diverse and distinct group of lesions derived from the proliferation of epidermal and adnexal keratinocytes . They account for approximately 90% of all skin malignancies.Seborrhoeic keratoses are benign tumours of epidermis that are more common in older individuals These lesions are unusual in children and even young adults .

Keratoacanthoma is a squamoproliferative tumour, mainly of hair bearing skin, incidence being higher in the sixth to seventh decade.It can mimic SCC with diagnostic difficulties.

Actnic keratosis or solar keratosis is a common intraepidermal lesion of sun-damaged skin characterized by basal atypia of keratinocytes.It is important to recognise this lesion as it is precursor of squamous cell carcinoma.Bowens disease is form of carcinoma in situ where there is basal atypia involving the entire thickness of lining epithelium.It occurs in sun unexposed skin and is a clinochistological diagnosis.

BCC develope predominantly over sun damaged skin in individuals who are fair skinned and prone to sunburn. Ward and Hendrick in 1950 observed that 60% of skin carcinoma occur in people over 60 years old . Both BCC and SCC occur more frequently in male when compared to females.SCC is a malignant neoplasm of epidermal keratinocytes with variable squamous differentiation. It is presents in elderly as ulcerative lesion of skin.Verrucous squamous cell carcinoma is a well-differentiated variant of squamous cell carcinoma with better prognosis and no metastatic potential. Histologically tumour cells exhibit only minimal atypia and very low mitotic activity.

The number of current classification of appendageal tumours of skin indicate how little consensus exists about their grouping , etiology and pathogenesis. Hashimoto and Lever in 1969 explained that there might be three possibilities for the development of appendageal tumours. They may develop from primary epithelial germs, from the cells of pre existing structures or from pluripotential cells (6).

Tumours with hair follicle differentiation include benign ones like trichofolliculoma , trichoepithelioma, pilomatricoma, trchilemmoma, proliferating trichilemmal cyst.Most lesions are seen in younger persons in head and neck region. Malignant lesions are seen in elderly and include rare pilomatricial carcinoma and trichilemmal carcinoma. Trichoepitheliomas are uncommon benign skin adnexal neoplasm which can mimic BCC. Mulitple trchilemmona are seen in cowdens disese. Pilomatricoma presents as firm deep subcutaneous nodule with normal normal overlying skin. Adnexal tumors with sebaceous differentiation include Nevus sebaceus,sebaceous adenoma and rare aggressive sabeceous carcinoma.Wilson and Heyl in 1970 found that Nevus sebaceus of Jadassohn as a rule to be located on the scalp or face as a single lesion of childhood and infancy(13). In Muir-Torre syndrome there is coexistence of multiple sebaceous skin tumors with visceral malignancy .

Tumors of apocrine differentiation include apocrine hidrocystoma , hidradenoma papilliferum , syringocystadenoma papilliferum and rare apocrine naevus. Syringocystadenoma papilliferum can be associated with nevus sebaceus . Ancil first reported cylindroma and coined the term turban tumour in the year 1842. Cotton and Braye in1984 described it as benign, may be multiple, autosomal dominant or solitary ,non familial tumour (4). Large number of nodules cover the entire scalp like a turban and hence the name. Tumors with eccrine differentiaon also include eccrine poroma first described by pinkus etal in 1956 as a fairly common solitary tumor (8) . Brownstein and Shapiro in 1975 found that in about 2/3 of the cases it is found on the sole or palmar region.Revis et al in 1981 reported about eccrine spiradenoma as a benign tumour usually occurs as a solitary intradermal painful nodule. Nodular hidradenoma is also referred to as solid cystic hidradenoma, clear cell hidradenoma or eccrine acropiroma .Syringoma and chrondroid syringoma are other tumours with eccrine differentiation.Malignant counterparts of appendegeal tumours are rare tumours seen in older polpualation .

MATERIAL AND METHOD.

A total of 102 histologically diagnosed case of skin tumour were included in this study conducted over period of 24 months.Clincal details like age, sex, site, duration amd othere details relevant to diagnosis were noted. The specimen were recived in 10% neutral buffered formalin. Haematoxylin and eosin stained sections were prepared and submitted for histopathological diagnosis.

Table 1: Clinical features of the skin tumours

Site	Nodule	Papule	Plaque	Wart	Macule	Ulcer	Total
Scalp	7	1	1	1	1	1	12
Face	12	23	3	1	1	9	49
Trunk	5	2	1	1	1	5	15
Extremities	8	3	5	2	1	7	26
Total	32	29	10	5	4	22	102

It could be observed from table 1 that, 49 lesions were seen on the face, 26 lesions on the extremities, 15 lesions on trunk and 12 lesions presented on the scalp. Nodular lesions and ulcerative lesions were single whereas macular and papular lesions were multiple. Benign lesions occurred in the form of nodules, papules or macules. Most ulcerative lesions were malignant. Of the 102 skin lesions 32 lesions presented as nodule,29 as papule,10 as plaque, 4 as macule, 5 as wart and 22 lesions as ulcer.

Table 02: Age Distribution Of Tumours

Age group	Number	Percentage %
0-20	12	11.7%
21-40	43	42.2%
40-61	37	36.3%
>61	10	9.8%
Total	102	100%

It could be inferred from the table 02 that 42.2% of patients were in the age group between 21 and 40 years, 36.3% were in the age group between 40 and 61 years , 11.% of patients belonged to category with age less than 20years and 9.8% were in the age group more than 61years. Out of 102 cases studied there were 51(50%) male patients and 51(50%) female patients . 57 tumours were of keratonicytic origin ,45 were of appendegeal origin.

Table 03: Keratinocytic Tumours

Tumour	Number Of Cases
Seborrheic keratosis	17
Benign fibropeithelial polyp	06
Benign squamouspapilloma	04
Keratoacanthoma	04
Actinic keratosis	03
Bowens disease	02
Verrucous carcinoma	03
Squamous cell carcinoma	07
Basal cell carcinoma	11
Total	57

There were 57 Keratinocytic tumours (55.88%) of which 31 (54.38%)were benign, 05 premalignant(8.77%) ,21 (36.84%) were malignant. The keratonocytic tumours showed male preponderance and increased incidence in the age group between 40 and 61 years. Face was the commonest site of occurrence. Malignant lesion presented as ulcers .SK was most coomon benign lesion while BCC was most common malignant tumour of keratinocytes. All cases of BCC occurred in region of face.

Table 04: Appendageal Tumours

Appendageal Tumours	No of cases
Pilomatricoma	09
Trichoepithelioma	03
Proliferating trichilemmal cyst	02
Naevus sebaceous	06
Hidradenoma papilliferum	04
Syringocystadenoma papilliferum	02
Apocrine hydrocystadenoma	01
Nodular Hidradenoma	05
Cylindroma	03
Eccrine poroma	02
Eccrine Spiradenoma	02
Syringoma	03
Chondroid syringoma	01
Sebaceous carcinoma	02
Total	45

45 appendageal tumours were observed in our study. Charateristic histology along with relevant clinical features helped to arrive at specific diagnosis including rarer ones like apocrine hydrocystadenoma biopsied from vulval skin. 14 were of hair follicle origin, 08 sweat gland tumours out which two were sebaceous carcinomas ,07 apocrine tumours all benign, 16 were of eccrine origin all benign. Majority were benign tumours 43(95.33%) , 02 (4.44%) malignant.Pilomatricoma was the commonest benign tumour .Most appendegeal tumours were presented in region of head and neck .The sebaceous carcinomas presented in periocular region of elderly females.

DISCUSSION:

Clinicopathological study of skin tumours was undertaken to analyse clinical presentation including age, sex, site of lesion, nature of lesion and definitive diagnosis by histopathological examination of the excised specimen.The skin tumours in our study were more common in the age group between 20 - 41years (42.2%).Similar observation was made by Narhire et al (7) . The youngest patient was 12 years old and the oldest patient was 79 years old in our study. Narhire et Al and Sheenam et al observed male predominance. No significant gender difference was observed in this study while considering all the 102 skin tumours. Keratinocytic tumours showed male predominance whereas appendageal tumours showed female predominance in our study. Clinical diagnosis was compared with histopathological diagnosis taking histopathological examination as the gold standard. Based on the clinical diagnosis 88 cases were benign and 14 cases were malignant. However histopathology proved 79 cases to be benign and 23 cases to be malignant .Keratinocytic tumours were the commoner our study which was also observed by Bari.V et al(1) In some studies like Gundalli et al study appendegeal tumours were found to more common. This may due to variation in sample size .Benign tumours were common in the age group between 21 - 40 years whereas malignant tumours were common in the age group between 40 -60 years and >61 years. Out of 102 cases studied benign tumours were more compared to malignant tumours. Similar results were observed by Nahire et al and Zhonghua Zong et al(9). Benign appendageal tumours out numbered benign keratinocytic tumours as seen in Nahire et al study(7).Basal cell carcinoma was the commonest malignant epidermal tumour which was comparable with Rana Asim Abdul study(10). Male outnumbered females in Nahire et al study, whereas female predominance was observed in Rana Asim Abdul study (10) , however these observations were not seen in our study.

Pilomatrixoma was the commonest appendageal tumour in our study which was in concordance with Yaqoob et al study(11). Appendegeal tumours showed female preponderance in our study. Similar observation were made by Vijayan et al (12).Tumours with eccrine and apocrine differentiation were slightly more in this study .This was similar to findings of both Vijayan et al and Yaqoob et al (14).Most appendageal tumours analysed in our study were benign in nature except for two case of malignant appendageal tumour of sebaceous origin. No syndromic associations were noted in our study.

SUMMARY AND CONCLUSION

A total of 102 cases of non melanocytic skin tumours of keratinocytic and appendegeal origin were studied . Keratinocytic tumours were more common than tumours of appendegal origin.Most tumour presented in the age group between 20 -41 years , as nodular lesion in region of head and neck.presenting .No sex predilection was seen in this study.Malignant tumours commonly presented as ulcerated lesions . SK was commonest benign keratinocytic tuomur while BCC was the commonest malignant tumour in this study.Benign appendageal tumours out numbered malignant counterparts. Pilomatrixoma was the commonest benign appendageal tumour.

The histological diagnosis of malignant skin tumours were

straightforward and diagnostic difficulties were encountered in adnexal tumours.Histopathological examination remains the gold standard in diagnosing skin tumours. Thus precise diagnosis of most skin tumors can be done based on characteristic histolopathology aided by clinical features.

Abbreviations used:
SCC-Squamous cell carcinoma
BCC-Basal cell carcinoma.
SK-Seborrhoeic keratosis

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