Research Paper

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Pattern of Skin Malignancies in Gmc Jammu -A 5 Year Histopathological Audit

Medical Science

KEYWORDS : Keratinocytic,Melanocytic,Appendageal,Soft tissue tumours.

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ABSTRACT

BACKGROUND : There is limited data available on the spectrum of benign and malignant neoplasms in India AIM: This study was conducted in histopathology section of pathology department of GMC Jammu to evaluate the frequency of benign and malignant neoplasms . MATERIAL AND METHODS : A retrospective analysis of 300 skin biopsies received in the pathology department over a period of 5 years was done .The neoplasms were categorized according to World health organization. RESULTS: Of all the skin biopsies, tumours were seen in 25% cases(300/1200). Benign neoplasms were more frequently seen 260 (86.7%) than malignant neoplasms 40 (13.3%). Among the benign tumours soft tissue tumours were the most commom including lipomas, vascular ,neural and fibrous tumours. Among the malignant neoplasms keratinocytic tumours were the commonest followed by melanocytic and appendageal tumours CONCLUSION: Soft tissue tumours form the major group among the benign neoplasms and keratinocytic tumours are the commonest malignant neoplasms.

INTRODUCTION

The skin is the largest organ in body. It is a complex organ with many functions and has three main anatomic components:epidermis and skin adnexa, melanocytic system, demis and subcutis(1). A wide variety of hyperplastic growths and tumours both benign and malignant are encountered in the clinical practice. The main etiologic factor involved in causation of skin tumours are solar radiation which causes DNA alterations, including pyrimidine dimers which during DNA replication may lead to CC:TT mutations in the TP53 tumour suppressor gene. Other genes involved in the multistep formation of skin cancer include PTCH and the RAS oncogene. Other factors include infection with human papilloma viruses (HPV) , Intermittent high-dose UV radiation, endogenous factors, including genetic susceptibility , lifestyle attitudes towards vacational sun exposure. Primary prevention and screening for early lesions are considered the most promising approach to a reduction of skin cancer mortality(2). Skin cancers are relatively uncommon malignancies worldwide and are not ranked among the top ten common cancers(3). The rate of skin cancers vary greatly around world. It is the most common and most curable of all the cancers.. In india incidence of skin cancers varies from 0.5-2 per 100000 population (4). There is a definite role of pathologist in the management of tumour as skin cancers are usually visible and most of them can be diagnosed and treated with minimal cost and facilities .This study was conducted in the Pathology department of Government medical college Jammu to reveal the pattern of various skin tumours .

Patient and methods

This was a retrospective study of all histological diagnosed cases of skin tumours over a period of 5 years i.e from July 2011 to July2015 in histopathological section of Pathology department , GMC hospital as it is the only referral hospital in Jammu. Histology slides of cases with in the study period were reviewed and clinical detail was obtained from the histopathology request forms. All the slides had been routinely stained with haematoxylin and eosin. No special stains were used . Tumours were classified according to WHO classification of skin tumours -2006 (5).

AIM

To evaluate the spectrum of benign as well as malignant skin neoplasms in a tertiary care hospital ,based on histopathological diagnosis using the international classification of skin tumours by WHO(2).

RESULTS

During a period of 5 years ,total of 11,200 surgical pathology specimen were received,out of these 1200 were skin biopsy specimens (10.7%). In these specimens, 300 skin tumors were diagnosed (25 %). Out of 300 tumours of skin , 260 (86.7%) were benign and 40 (13.3%) were malignant. Thus benign tumours were more common than malignant tumours. In the present study ,though tumours were present in all age groups, the peak age incidence for malignant tumours were found in 7thdecade (25%) and benign tumours were found in the 3rd decade (31.6%) Table 1. The benign and malignant tumours were found more common in male 166(55.3%) than in females134 (44.7%). (P value-) Table 2.

The tumours were broadly classified according to WHO classification of skin tumours -2006 (5).

Table 1 Age distribution of skin tumours

Age (years)	Benign	Malignant	Total
11-20	40	2	42
21-30	80	3	83
31-40	46	4	50
41-50	34	6	40
51-60	22	8	3 0
61-70	25	10	35
>70	13	7	20
Total	260	40	300

Table 2 Sex distribution of skin tumours

SEX Benign tumours	**Male** 140	**Female** 120	**Total** 260
Malignant tumours	26	14	40
Total	166(55.3%)	134(44.7%)	300(100%)

TABLE 3 Distribution of skin tumors

TUMOURS	BENIGN No(%)	MALIGNANT No(%)	TOTAL No(%)
Keratinocytic/epidermal	34(13)	30(75)	64(21.4)
Melanocytic	50(19.3)	5(12.5)	55(18.3)
Vascular	47(18)	0(0.0)	47(15.7)
Adnexal	15(5.6)	1(2.5)	16(5.3)
Subcutaneous Fat	60 (23.1)	0(0.0)	60(20)

Neural	42 (16.2)	0(0.0)	42(14)
Fibrous	12(4.8)	4(10)	16(5.3)
Total	260(100.0)	40(100.0)	300(100.0)

The soft tissue tumours of skin 165/300(63.4%) were found to be the commonest followed by the Keratinocytic group 64(21.4%) ,Melanocytic tumours 55(18.3%) while adnexal tumours were the least common 1 6(5.3%)

TABLE 4 Distribution of different type of skin tumours of skin

Benign Tumours	No.	%	Malignant Tumours	No.	%
Keratinocytic tumours			Keratinocytic tumours		
Seborrheic Keratosis	10	3.8	Squamous cell carcinoma	18	45
Keratoacanthoma	3	1.1	Basal cell carcinoma	11	27.5
Verruca	18	7	Metastatic adenocarcinoma	1	2.5
Actinic keratosis	3	1.1			
Total	34	13	**Total**	30	75
Melanocytic tumours			Melanocytic tumours		
Intradermal nevus	25	9.6			
Compound nevus	9	3.4	Malignant melanoma	5	12.5
Blue nevus	4	1.5			
Junctional nevus	12	4.8			
Total	50	19.3	Total	5	12.5
Vascular tumours					
AV haemangioma	34	13			
Pyogenic granuloma	10	3.8			
Haemangioendothelioma	2	0.8			
Glomus tumour	1	0.4			
Total	47	18			
Adnexal tumours			Adnexal tumours		
Trichoepithelioma	4	1.5			
Eccrine poroma	1	0.4	Prolferating trichilemmmal tumour	1	2.5
Pilomatricoma	4	1.5			
Chondroid syringoma/ syringoma	3	1.1			
Eccrine spiradenoma	3	1.1			
Total	15	5.6	**Total**	1	2.5
Lipoma	60	23.1			
Neural tumours					
Cutaneous Neurofibroma	32	12.4			
Schwannoma	10	3.8			
Total	42	16.2			
Fibrous tumours			**Fibrous tumours**		
Dermatofibroma	8	3.2	Dermatofibrosarcoma protuberans	4	10
Cutaneous leiomyoma	2	0.8			
Fibrokeratoma	2	0.8			
Total	12	4.8	**Total**	4	10
Total	260	100		40	100

In our study squamous cell carcinoma was the commonest malignant tumours(45%) followed by basal cell carcinoma(27.5%). Out of 260 benign tumours studied soft tissue tumours were found to be the most common(65.4%) followed by melanocytic tumours (19.3%) , keratinocytic tumours(13%), and adnexal tumours (5.6%) being the least common.

Discussion

The skin tumours are important from clinical, morphological and therapeautic point of view. Out of the 1200 skin biopsy specimen received during the period , 300 were diagnosed as skin tumours making around 25% of total skin biopsies. This included 260 (21.6%) benign and 40 (3.4%) were malignant. Thus benign tumours were more common than malignant tumours. This is somehow comparable to study done by Azad s et al wherein nearly one fourth of skin biopsies examined histologically were skin tumours(5) . Similar results have been reported in a study by Bin Yap from the island of Borneo in Malaysia in 2009(6).

In our study the benign tumours 260 (86.7%) were found to be more than malignant 40 (13.3%) tumours of skin. This is similar to studies done by Bari V et al (7) done at TNMC Mumbai , Har-shai et al(8) , Azad S et al (5) where they also found benign tumours more than the malignant tumours although proportion of both benign and malignant tumours were variable. Skin tumours were found in all age groups , the peak age incidence for benign tumours was found in 3rd decade 80 (30.8%) and for malignant tumours was found in 7th decade 10 (25%) . Similar findings were seen in study done by Bari V et al (7) where benign tumours peak was seen in 3rd decade (20.3%) and malignant tumours in 7th decade(37.7%). Study done by Nandyal S et al (9) showed similar results with benign tumour peak in 3rd and 5th decade and malignant tumours in 5th and 7th decade . Azad S et al (5) found the peak age incidence for benign tumours during 21-40 years and malignant tumours were more common after 40 years of age . The benign and malignant tumous were found more common in males than in females .Out of 300 cases of skin tumours 166 (55.3%) were found to be males and 134 (44.7%) were females. The distribution pattern was comparable to study done by Reddy DJ and Rao KV(10), Khalid M et al(11), Ochchida et al (12) who reported 54% and 46% cases in males and females respectively. Chakravarthy et al(13) reported 71.62% and 23.38% cases in males and females respectively. In our study overall soft tissue tumours(63.4%) were found to be the most common followed by epidermal tumours (21.4%), melanocytic tumours (18.3%) with adnexal tumours being the least common . Similar findings were seen in study done by Azad S et al(5) wherein soft tissue tumours constituted 45.1% followed by keratinocytic tumours 24.7%. Among the benign tumours soft tissue tumours were the commonest benign neoplasms .The common benign tumours were lipomas,vascular or smooth muscle tumours ,neural and fibrous lesions. Among the keratinocytic group, verrucas were found to be the commonest and keratoacanthomas being the least common similar findings were reported in study done by Bari V et al(7) . Among the adnexal tumours , tumours with eccrine differentiation were found to be the commonest similar to study done by Jindai U et al(14). Intrademal nevi was the most common among the benign melanocytic tumours similar to study done by Bari V et al (7).

Among the malignant tumours , Squamous cell carcinoma (45%) was found to be the most common followed by basal cell carcinoma (27.5%), Malignant Melanoma(12.5%), Dermatofibrosarcoma(10%)and proliferating trichilemmal and metastatic adenocarcinoma (2.5%) being the least common . Studies done by Deo SV et al(4) , Bari V et al(7) , Ochchida et al(12) also found squamous cell carcinoma to be the most common with squamous cell carcinoma making 55.8%, 45.9% , 40 % respectively among the malignant tumours of skin. Sajad P et al (15) did a study on skin tumours in Kashmir and found squamous cell carcinoma to be the most common followed by basal cell carcinoma and melanoma. Whereas many other studies done in Caucasian people show basal cell carcinoma to be the commonest as was found in those done by Holterhues C et al(16) ,Christenson LJ et al(17) . The same may be explained by the fact that the most important predisposing factors in pathogenesis of basal call carcinoma is light skin colour in association with strong sunlight. Melanoma was found to comprise 12.5% of all skin malignancies in our series .These results are similar to the study done `by Azad S et al (5)and Holterhues et al(16) where malenoma was found to comprise 9% and 12.5% of all skin malignancies respectively . Adnexal carcinomas as well as sarcomas of cutaneous origin were found to be the least common with no case of haematolymphoid malignancies seen. These observations were similar to the study

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done by Azad S et al(5).

Thus our study presents a comprehensive overview of overall WHO skin tumour groups however some underreporting may have occurred as some skin tumours may have been diagnosed outside or some patients may have received treatment without histopathological examination.

Summary and conclusion-Soft tissue tumours of skin form the largest group amongst the benign neoplasms and keratinocytic tumours are the commonest malignant skin tumours.

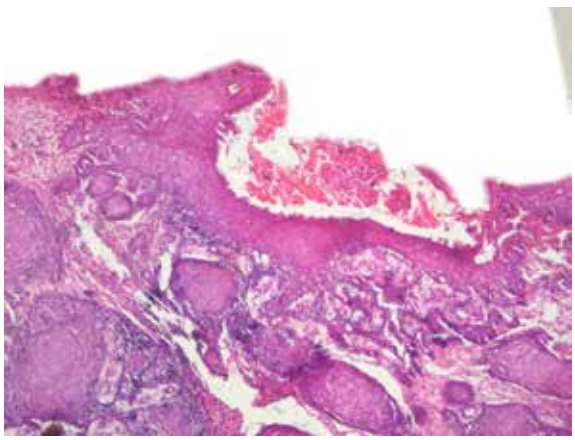

Fig1.Squamous cell carcinoma

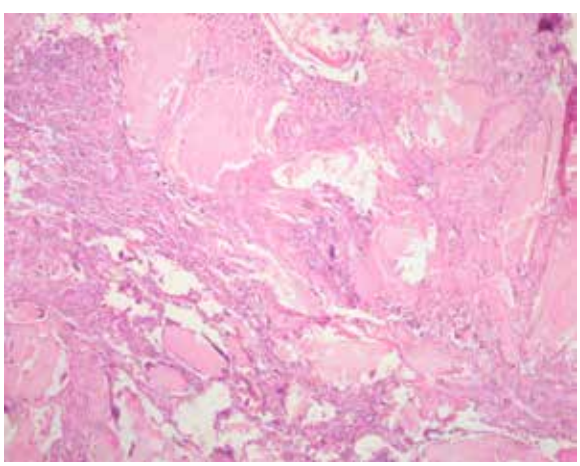

Fig 2 Pilomatricoma

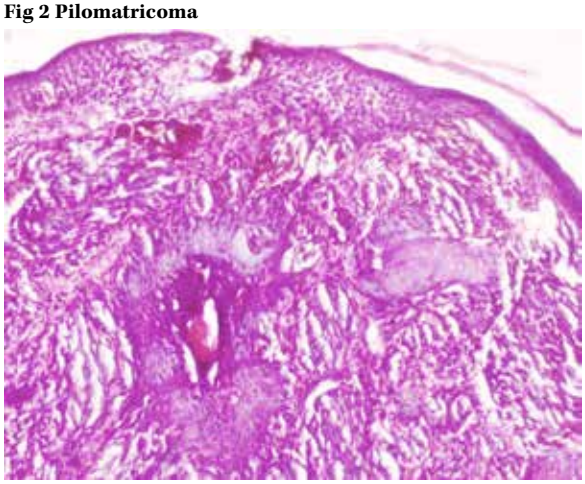

Fig 3 Malignant Melanoma

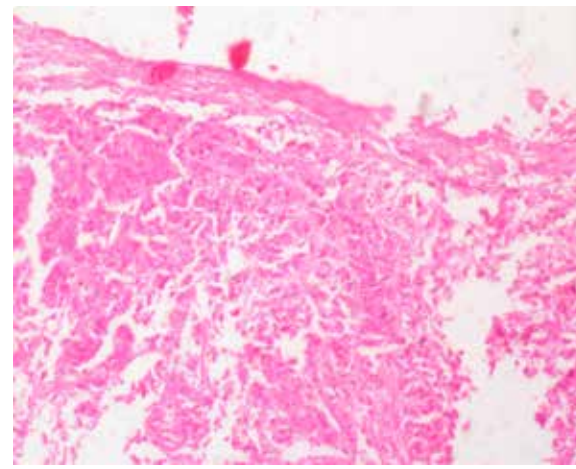

Fig4 Metastatic adenocarcinoma to skin

REFERNCES.

1. Levers Histopathology of skin .10th edition; 2013.
2. Le Boti,Berg G, Weeden D,Sarasin A.-world health organization LeBoti P., Berg G., Weedon D., Sarasin A. — World Health organization of the Tumours,pathology and genetics of skin tumours.IARCpress.Lyon 2006.
3. Diepgan TL , Mahler V.The epidemiology of skin cancer.Br J Dermatol 2002;146:1-6.
4. DeoS.V., Hazarika S.,Shukla N.,Kumar S.,Kar M.,Somaiya A.-Surgical management of skin cancers:Experience from a regional cancer centre in North India. Ind J Cancer200;.42:145-15.
5. Azad S, Acharya .S,Kudesia A.,KishoreS,Mehta A.K..-Spectrum of skin tumours in a tertiary care centre in Northern India.Jemds 2014.vol 3:64:13444-13450.
6. Bin Yap F. Dermatopathology of skin biopsies from Sarawak.Indian J Dermatol Venerol 2009;75(5) :518-9.
7. Bari V, Murarkar P,Gosavia A,Sulhyan K. Skin Tumour-histopathological review of 125 cases.Indian Medical Gazette 2014;11.
8. Har-Shai Y., Hai N., Taran A., Mayblum S., Barack A., Tzur E. et al.- Sensitivity and positive predictive values of presurgical clinical diagnosis of excised benign and malignant skin tumours: a prospective study of 835 lesions in 778 patients. Plast Reconstr Surg 2001;108(7):1982-2001.
9. Nandyal S S, Puranik R.B.- Study of demographic profile of skin tumours in a tertiary care hospital. IJCRR.2014;6(16):24-28.
10. Reddy D.J, Rao K.V.- Malignant Neoplasms of the skin. Ind J Dermatol Venerol 1964;30:43-54.
11. Khalid M,Khalid A, Bhat M, Ramesh V, Syed M.-Skin tumours in western Saudi Arabia. Saudi Med J 2003;24(12):1381-1387.
12. Ochicha O. , Edino S.T., Mohammad A.Z.,Umar A.B.-Dermatological malignancies in Kano,Northern NIGERIA: a histopathological review. Ann Afrc Med 2004;3(4):188-191.
13. Chakravarthy R.C., Choudhari.-Malignant neoplasms of skin in Eastern India. Ind J Cancer.1968;5(1):133-144.
14. Jindal R P. Study of adnexal tumours of the skin- a three year study of 25 cases. The Internet Journal of Pathology 2012;13(3).
15. Sajad P , Hassan I, Reshi R, Khan A, Quereshi W. Pattern of skin tumours in Kashmir valley of North India:a hospital based clinicopathological study.International Journal o Information Research and Review 2015;2(2):376-81.
16. Holterhues C , Vries E, Louwman MW , Koljenovic S, Nijsten T. Incidence and trends of cutaneous malignancies in Netherlands, 1989-2005. Journal of investigative dermatology2010;30:1807-12.
17. hristenon LJ ,Borrowman TA, Vachon CM, Tollefson MM, Otley CC, Weaver AL. Incidence of basal cell and squamous cell carcinomas in a population younger than 40 years. JAMA2005;294(6):681-90.