

A HISTOPATHOLOGICAL ANALYSIS OF MALIGNANT TUMOURS OF THE SKIN IN UNIVERSITY OF MAIDUGURI TEACHING HOSPITAL [UMTH], NIGERIA

By

DR. H.A. Nggada *FMCPath.* *DR. H.U. Na'aya* *FWACS* *DR. N.Ali* *FWACS*

*Department of *Histopathology and Surgery University of Maiduguri Teaching Hospital
P.M.B. 1414, Maiduguri, Borno State*

**Correspondence: Dr.H.A.Nggada, Histopathology Dept. UMTH.*

ABSTRACT

Objective: To describe the demographic characteristics and anatomical distribution of skin malignancy as seen at the University of Maiduguri Teaching Hospital.

Methods: This study retrospectively reviewed cases of skin cancer diagnosed between January 1991 and December 2000 in the Histopathology Department of University of Maiduguri Teaching Hospital.

Results: A total of 313 cases of skin malignancy were histopathologically diagnosed. The male, female ratio was 1.5:1 and the peak age incidence was in the 6th decades of life. The non-melanoma, skin cancer (squamous cell carcinoma) was the commonest epidermal malignancy and accounted for 148 (47.3%). Kaposi's sarcoma was the commonest cutaneous sarcoma with 49 (15.7%) and all the cases were associated with HIV infection. The malignant melanoma accounted for 63 (20.1%) of skin malignancy. All cases of melanomas were diagnosed above the age of 40 years and all occurred on the leg and foot. The lower limb (leg and foot) was the mutual site of skin malignancy, which accounted for 160 (51.1%). Childhood skin cancers are rare.

CONCLUSION: Skin cancer is not uncommon among the black population. Nigerians suffer from late presentation of the disease. The incidence of skin cancer can be prevented or reduced through public health education or early diagnosis of skin lesion and prompt medical treatment.

KEYWORD: Skin malignancy, Epidermal, Cutaneous. **INTRODUCTION** The skin is a very heterogeneous organ, and the types of tumour which appear in it are much more numerous than in any other organ¹. Skin cancers are usually divided into two groups: melanoma and non-melanoma^{2,3}. The non-melanoma skin malignancy are much common than melanomas and are further sub grouped into epithelia and non-epithelial⁴. The incidence rates of skin cancer are high in non-pigmented people in Australia, New Zealand and South Africa⁵. The Africans have melanin pigment which prevent sunburn and cancer formation by absorbing the ultraviolet radiation⁶. However, the albinos are more susceptible to skin cancer. Skin cancers have been directly attributed to exposure to sunlight, trauma, immunodeficiency state especially AIDS, pre-malignant skin lesion like lentigo maligna and genetic diseases like Xeroderma pigmentosum (XP),^{7,8,9}. The purpose of this hospital-based study is to analyze histopathological diagnosed malignant skin tumours in the University of Maiduguri Teaching Hospital (UMTH) by identifying their age, sex, site distribution and histological types. This study will also serve as a baseline data in this region for further references and other studies.

METHODS: This is a retrospective study of 313 diagnosed malignant tumours of the skin over a period of ten years carried out in the Histopathology Department, UMTH, Nigeria. The duplicate copies of all reports and their corresponding original slides were retrieved and reviewed. Fresh sections were prepared in cases where the original could not be retrieved and stain with Haematoxyline and Eosin [H&E]. Special stains like Masson Fontana to demonstrate melanin pigments were done. Information about the Age, Sex, Anatomical site and Histopathological diagnosis were extracted. The tumours were classified into melanocytic and nonmelanocytic following Armed Forces Institute of Pathologists modification of the World Health Organization's classification of skin tumours.

RESULTS

During the study period between January 1991 and December 2000, a total of 9,095 copies were received and analyzed in the Histopathology department U.M.T.H. One thousand five hundred cases were malignant diseases, which accounted for 16.5% of all biopsies. A total of 313 cases were skin cancers, which accounted for 20.9% of all malignancy.

AGE DISTRIBUTION

Table 1. Shows the age distribution of skin cancers. The skin cancer was seen from the second decade of life and peak age incidence varies from the histological type. The epidermal carcinomas and cutaneous sarcomas are peaked at the sixth and fourth decades of life respectively (Table-2). All cases of malignant melanoma were diagnosed above the age's 40 years (Table-3).

SEX DISTRIBUTION

Table-4 shows the sex distribution of skin cancers. There were 189 (60.4%) males and 124 (39.6%) females giving a ratio of 1.5:1. The males have a high preponderance of most of the skin cancers than their female counterparts. There were 36 males and 13 females cases with Kaposi's sarcoma.

ANATOMICAL SITE DISTRIBUTION

The commonest site for skin malignancy is the lower limb (leg and foot), which accounted for 160(51.1%). The trunk is the second frequent site of all malignancies and the commonest site of all sarcomas (Table-5). All the 63 cases of malignant melanomas are found in leg and foot. The ear is rarely involved with skin malignancy.

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HISTOLOGIC TYPE

The 313 cases of skin malignancies in this series made up the 11-histologic types. Squamous cell carcinoma is the frequent histologic type and accounted for 148(47.3%) cases. There are only 6 cases of Basal cell carcinoma and one case of sebaceous cell carcinoma. There are 94 (30.0%) patients with cutaneous sarcomas (Tables 3 & 4) and 50% are seen in the leg and foot and 18% in the trunk. Kaposi's sarcoma accounted for 49(15.7%) cases and others include Dermatofibrosarcoma protuberans 28(8.9%), Malignant fibrous histiocytoma 13 (4.2%), Malignant Schwannoma 2, Fibrosarcoma and Liposarcoma one case each. There are 63 cases of malignant melanoma accounted for 20.1% of all skin malignancies.

TABLE -4 SEX DISTRIBUTION OF SKIN MALIGNANCY

DIAGNOSIS	MALE	FEMALE	TOTAL
Squamous cell carcinoma	86	62	148
Malignant melanoma	34	29	63
Dermatofibrosarcoma protuberans	18	10	28
Kaposi's sarcoma	36	13	49
Malignant fibrous histiocytoma	8	5	13
Basal cell carcinoma	4	2	6
Malignant Schwannoma	1	1	2
Fibrosarcoma	1	-	1
Liposarcoma	-	1	1
Sebaceous cell carcinoma	1	-	1
Lymphoma (NHL)	-	1	1
TOTAL	189(60.4%)	(124(39.6%))	313

TABLE -1 AGE DISTRIBUTION OF EPIDERMAL AND CUTANEOUS APPENDAGE CARCINOMAS

DIAGNOSIS	0-9	10-19	20-29	30-39	40-49	50-59	60-69	>70	Unspecified	Total
Squamous cell Carcinoma	-	1	14	19	27	39	24	17	7	148
Basal cell Carcinoma	-	-	-	-	2	3	-	1	-	6
Sebaceous gland carcinoma	-	-	-	-	-	1	-	-	-	1
TOTAL	0	1	14	19	29	43	24	18	7	155
%	0	0.6	9.0	12.3	18.7	27.7	15.5	11.6	4.5	100

TABLE -2 AGE DISTRIBUTION OF CUTANEOUS SARCOMAS

DIAGNOSIS	0-9	10-19	20-29	30-39	40-49	50-59	60-69	>70	Unspecified	Total
*DFSP	-	1	6	8	1	7	1	1	3	28
Kaposi's sarcoma	-	1	4	28	12	2	1	-	1	49
Fibrosarcoma	-	-	-	-	-	1	-	-	-	1
Malignant fibrous histiocytoma	-	2	3	-	1	4	1	2	-	13
Malignant Schwannoma	-	-	-	-	-	1	1	-	-	2
Liposarcoma	-	1	-	-	-	-	-	-	-	1
TOTAL	0	5	13	36	14	15	4	3	4	94
%	0	5.3	13.8	38.3	14.9	16	4.3	3.2	4.3	100

TABLE -3 AGE DISTRIBUTION OF CUTANEOUS MELANOMA, AND LYMPHOMA CARCINOMAS

DIAGNOSIS	40-49	50-59	60-69	>70	Unspecified	Total
Melanoma	10	24	22	4	3	63
Lymphoma	-	1	-	-	-	1
TOTAL	10	25	22	4	3	64
%	15.6	39.1	34.4	6.3	4.7	100

DISCUSSION

The skin is the largest organ in the body that is afflicted by trauma, inflammatory diseases and neoplasms. The malignant neoplasm of the skin is prevalent and accounted for 20.9% of all cases of cancers in this study. A total of 313 cases of histopathological diagnosed malignant tumours of the skin were reviewed. In blacks, squamous cell carcinoma occurs more frequently than Basal cell carcinoma, which is the commonest histological subtype¹¹. In this study it accounted for 148 (47.3%). On the other hand, Basal cell carcinoma is one of the most common skin malignancies among Caucasians. This is attributed to the fact that the whites have fairly light skin⁶. The Squamous cell carcinoma in this study is mostly preceded by a chronic inflammatory skin diseases due to poor hygiene especially wounds on the foot and legs. However, three of the patients were albinos and all them presented with Squamous cell carcinoma. Sixty (37.5%) cases of foot and legs malignancy were squamous cell carcinoma, which is followed by 53(31.1%) cases of malignant melanoma. Malignant melanoma is the commonest skin malignancy in the sun-exposed area of the body in the whites. The ultra-violet light has an oncogenic effect on the germinative basal layer of the skin, which is less protected by melanin in the whites². However, in blacks, malignant melanoma is commonly found on the sole of the foot probably due to frequent trauma and chronic infection, which can be explain as a co-carcinogenic stimulus^{2,11,12}. It was observed in this study that Squamous cell carcinoma is relatively seen from the third decade and peak age of 40 years, which agree with other studies in Nigeria.^{12,13}

The non-epithelial tumours of the skin, Dermatofibrosarcoma Protuberans (DFSP) is commonly seen in this study and accounted for 28(8.9%) cases of all the skin-malignancy. The malignancy is frequently seen in the 3rd, 4th and 6th decades of life with a male to female ratio of 1.5:1. Dermatofibrosarcoma Protuberans is commonly

TABLE 5. SITE DISTRIBUTION OF GROUPS OF MALIGNANT SKIN NEOPLASM

DIAGNOSIS	LEG AND FOOT	THIGH	ANO-GENITAL	TRUNK	NECK	UPPER LIMB	FACE	EAR	EYELID	SCALP	UNSPECIFIED	TOTAL
Epidermal	60	1	13	8	3	5	17	1	14	8	24	154
Appendage	-	-	-	-	-	-	-	-	1	-	-	1
Soft tissue	47	8	-	17	-	5	2	-	1	-	10	94
Melanoma	53	-	-	-	-	-	-	-	-	-	10	63
Lymphoma	-	-	-	1	-	-	-	-	-	-	-	1
Total	160	9	13	26	3	10	19	1	16	12	44	313
%	51.1	2.9	4.2	8.3	1.0	3.2	6.1	0.3	5.1	3.8	14.1	

in the trunk in this study and among the blacks in Americans.

¹⁴ In Tanzania, the common site of DFSP is the lower limb rather than the trunk. ¹⁵ This variation may be due to environmental, racial or genetic factors. All cases of Kaposi's sarcoma in this study are associated with HIV infection and this can explain the immunodeficient state as a strong etiological factor for cutaneous cancers. The other cutaneous sarcomas are rare.

Childhood cancer of the skin are rare in this study, only five cases are less than fifteen years of age and only one case of epithelial origin (Squamous cell carcinoma), the remaining tumours are of cutaneous origin (Two cases of malignant fibrous histiocytoma and one case each of Kaposi's sarcoma and Liposarcoma). This explain the fact why sarcoma are likely to occur in childhood than carcinomas.¹³

CONCLUSION AND RECOMMENDATION

In conclusion, malignancies of the skin are not uncommon among the black population. However, public health education and proper caring of wounds on the legs can prevent the high incidence. The use of shoes will also go along way in protecting the feet from trauma and chronic infection. The proper self examination of the skin, early detection of skin lesions and prompt medical advice will reduce the incidence of skin cancers. This paper forms the basis for further studies of skin malignancy in this environment.

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