MALIGNANT MELANOMA: OUR EXPERIENCE AT THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL, PORT HARCOURT

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ABSTRACT

Background: *Malignant melanoma is a neoplasm of melanin producing cells of the body that develop from melanocytes. All humans have naevi as beauty spots on their bodies. Although, it was once considered uncommon, the annual incidence has increased dramatically over the past decades. Melanoma has been reported as the 19th most common cancer worldwide with estimated age standardized incidence rates of 2.8 – 3.1 per 100,000.*

Exaggerated response to sun exposure e.g. sunburns, freckling, high risk skin types, excessive use of tanning beds, genetic predisposition and immunosuppression. Global warming and depletion of the ozone layer may contribute to its increase. The study aims to create awareness of the potential hazards which can develop from naevi in the human body; to know the early clinical features of malignant transformation for early treatment.

Method: *This is a retrospective study of melanoma patients between 2011 and 2021. A total of 14 patients (9 females and 5 males) were examined and diagnosed for different types of melanoma (right and left foot) at University of Port Harcourt Teaching Hospital, Port Harcourt.*

Result*: 14 patients were diagnosed, males 5 and females 9.*

Findings in this study showed increased number of melanoma in females (64.3%) than males (39.7%); mean age was 56.9 years.

Conclusion: *Malignant melanoma though not a common skin cancer has recorded an increased incidence over the last couple of decades. Awareness of indicators of transformation from naevi to malignant melanoma is key to early detection and treatment for reduced morbidity and mortality.*

Key words: *Melanoma, naevus, malignant transformation & early detection.*

INTRODUCTION

Malignant melanoma is a neoplasm of melanin producing cells of the body that develop from melanocytes. These are neural crest cells. Their most common site of involvement is the skin, although occasionally primary melanoma develops in other organs (eye, oral and nasal mucosa, vulva and anorectal mucosa: other gastrointestinal mucosa and the central nervous system (CNS)). Melanomas are a major cause of premature death from cancer. Recognized risk factors include personal or family history of melanoma, large numbers of naevi and/or dysplastic naevi, giant congenital melanocytic naevi, fair complexion, a tendency to sunburn, solar-damaged skin, a history of non-melanoma skin cancer, and immunodeficiency Gandini et al.[1]

Although it was once considered uncommon, the annual incidence has increased dramatically over the past decades. Melanoma has been reported as the 19th most common cancer worldwide with estimated age standardized incidence rates of 2.8-3.1 per 100,000, while in the United States of America, 98.2% of cases are reported amongst white-skinned individuals Chang et al.[2] In 2009, the number of new cases of melanoma in Australia was 11,545 and the mortality figures for melanomas in 2010 were 1,452[3]. In Nigeria, reports from several studies show significant increase in melanoma[4-8].

The most common sites for melanoma are the legs of women and the backs of men, despite these not being the sites of greatest sun exposure. Early detection is associated with improved survival[9]. Melanoma is almost exclusively a disease of adult, however in children, melanoma has been observed

to be seen to occur predominantly in the setting of giant congenital nevi or dysplastic nevus syndrome, or in the setting of xeroderma pigmentosum[10].

The following risk factors are associated with malignant melanoma: family history of melanoma, Dysplastic nevi (noncancerous, but unusual- looking moles), Previous melanoma or other skin cancers, many nevi (ordinary moles): more than 50 (or 200 moles), exaggerated response to sun exposure e.g sunburns, freckling, high risk skin types (albino). Fair skin, xeroderma pigmentosa), excessive use of tanning beds, genetic predisposition and immunosuppression.
Melanomas arise as proliferations of melanocytes in the basal layer of the skin. It may be from normal skin or precursor lesions such as dysplastic nevus, acquired nevus, congenital nevus and/or cellular blue nevus.

The aim of the study is to establish the knowledge that moles are present in all humans, and for each of us to know the features of moles undergoing malignant transformation to melanoma; and that 50% of melanomas arise from pre-existing nevi, while 50% arise de novo. The knowledge of signs of transformation of naevi to melanoma will aid early detection and treatment, will result in much reduced morbidity and mortality from melanoma, which is the commonest skin malignancy that presents with metastasis.

METHOD

This is a retrospective study of melanoma patients between 2011 and 2021. A total of 14 patients (9 females and 5 males) were examined and diagnosed for different types of melanoma (right and left foot) at Plastic Surgery Department, University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State.

RESULTS

Findings in this study showed more cases of melanoma in females (64.3%) than males (39.7%). The mean age was 56.9 years

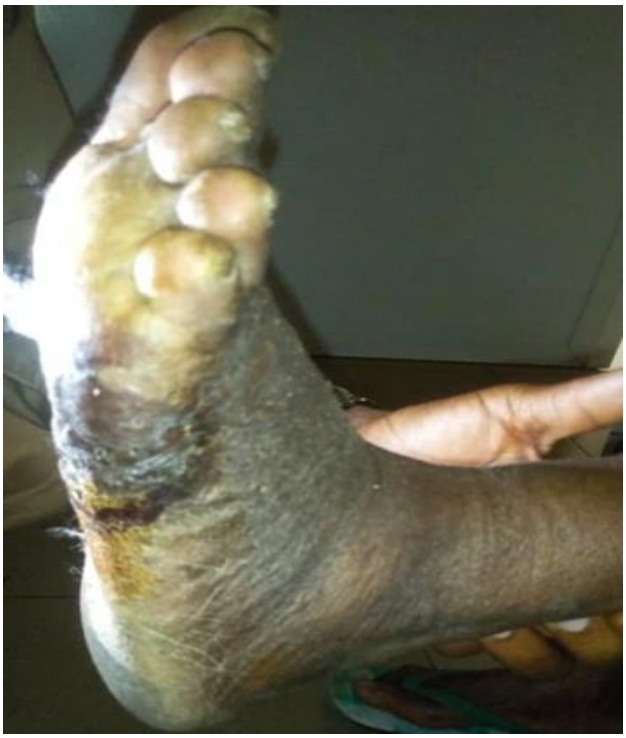

Figure 1A (Lateral view): Picture Showing Malignant Melanoma on the Sole of left foot (Acral lentiginous type). The commonest type in our environment.

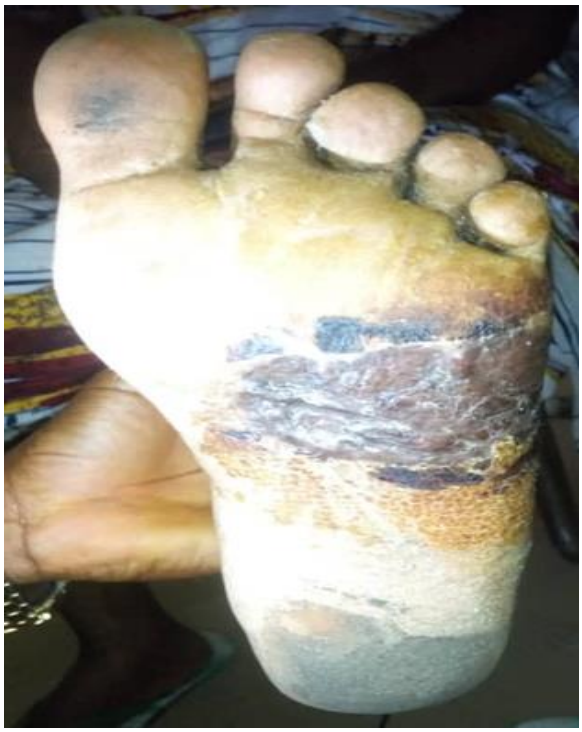

Figure1B (Inferior view): Picture Showing Malignant Melanoma on the Sole of left foot

DISCUSSION

This present study indicated that more females were affected by the cancer than males which is not in consonant with study by Ganiyu et al.[4] However, this study and other studies[11-16] have shown that females have higher incidence of melanoma. Possible reason may be the exposure of the skin to sun by females who predominantly wear gowns and skirts that cover up to the kneecap or above the kneecap, leaving the legs exposed to sun exposure. Other reason could be that women are cosmetically more concerned about their appearance, hence report earlier to clinics on any issue that relates to their appearance and beauty. Unlike females, males are not so concerned about their skin appearance and this may lead to relative under-reporting by most males to clinics about their skin problems and may have contributed to the higher number of cases in females. Males have less concern about body appearance than females when it comes to issues about their skin until it becomes a very conspicuous problem[17,18]. This results in more damaging effects on their body as they tend to present at a more advanced stage of disease with observed worse prognosis and higher recurrence and mortality rates. Joose[19,20] noted that women are at a lower risk of developing metastasis.

As melanocytes multiply, they expand radially in the epidermis and superficial dermal layer; (radial/horizontal growth phase). With time, the growth begins in a downward direction (vertical growth phase). Nodular melanomas are an exception to this pattern, wherein the vertical growth phase starts early and is able to invade the underlying layers, including blood and lymphatic vessels, thus their aggressiveness, early metastasis and correspondingly worse prognosis compared to the other pathologic types.

Cellular atypia- pleomorphism, nuclear hyperchromasia and numerous mitotic figures are histologic findings which clinch the diagnosis of Melanoma and differentiates it from Naevi.

Invasion of Melanoma into deeper dermis and subcutaneous tissues lead to lymphatic and hematogenous spread which is important to consider in clinical staging. Involvement of adjacent

skin located less than 5cm from the primary lesion is described as Satellite nodules; while those seen more than 5cm from the primary lesion are regarded as locoregional or distant metastasis.

Melanomas may erode superficial layers of the skin and breach the stratum corneum, leading to ulceration which connotes a worse prognosis and this was found in some of our cases. Melanoma is said to be rare before puberty. In most cases they are seen in the 30 to 60-year age group and the peak age is the fourth decade of life. The findings of our study conform to these aforementioned statements. It may occur in any part of the body but in West Africa[21] most cases are found in the sole of the foot and lower parts of the leg- the acral lentiginous type- which most often is seen at the dermo-cutaneous junctions[22]. Among Caucasians[23], it is found most times in exposed areas of the body especially in the head and neck region than in the lower leg, sole of foot, back and forearm. The commonest site in women however is the lower leg[23].

Presence of pain, itch, satellitism (intradermal lymphatic secondary deposits), increase in height or size (>6mm is characteristic), deepening of pigmentation, variegation in colour, crust formation, inflammatory changes, bleeding, ruggedness, ulceration or irregularity of the edge are features of malignant transformation.

Treatment of melanoma is wide surgical excision of the primary lesion to achieve clear margins; while for advanced disease other modalities have been added with no added advantage on recurrence and mortality rate. Recent recommendations for stage I disease require an excision margin of no more than 1.5 cm for a lesion with a good prognosis and a 3.0 cm margin for all other lesions[24,25].

Melanomas are reported as the deadliest skin cancers with a reported mortality rate of 2%[23]. It accounts for 75% of all skin cancer deaths and is potentially curable if identified early. Survival at five years following newly diagnosed invasive melanoma (Clark's level 2–5) has increased from 87% in the 1980s to over 92% in the late 1990s[26] in Australia. The five-year survival rate continues to

remain over 90% since 2010, Holman et al.[27] In the absence of any new significant chemotherapy in that period, the improvement in survival has been attributed to public education and early diagnosis and excision Holman et al.[27] Scar re-excision, sentinel lymph node biopsy, elective lymph node dissection, chemotherapy, radiotherapy and immunotherapy may improve survival at one year but have not been shown to improve five-year survival[28]. Adjuvant therapy with interferon results in a significantly greater disease-free survival rate although it is also associated with significant toxicity[29].

According to World Health Organisation (WHO)[31], acral lentiginous melanoma (ALM) is considered the most common subtype among Africans, however this conclusion is largely based on studies of the African-Americans and black South Africans[32,33,34]. For instance, studies performed in the United States showed that sole or palm (44%), lower extremities (63%) and foot were the common sites of melanoma in black Americans[32-34] and in a South African study, ALM was the only type found in black Africans. In their cohort, no cases occurred above the wrist or ankle[30]. Although genetic predisposition has been implicated in the predominance of ALM in patients of African ethnicity[34], African-Americans and black Africans are not genetically identical[38].

CONCLUSION

Malignant melanoma though not a common skin cancer has recorded an increased incidence over the last couple of decades. Awareness of indicators of transformation from Naevus to Melanoma is key to early detection and treatment for reduced morbidity and mortality.

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