

## Clinico Pathological Study Of Melanocytic Skin Tumors in Yemeni Patients

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### Abstract

Melanocytic nevi are important primarily because of their histogenic relation to cutaneous melanoma. Acquired melanocytic nevi, are believed to have been developed from epidermal melanocytes that completed their migration from the neural crest. This study has been conducted to provide baseline data on the character of benign and malignant melanocytic skin tumor in Yemeni patients. A retrospective study from records in which 40 cases were reviewed out of 60 cases with pigmented skin lesions which were histologically examined to exclude malignancy during the period from 2006 to 2014. The results and observations were organized and interpreted in light of demographic, clinical and histopathology findings. A total of 40 pigmented skin lesions were histologically reported during the period under review. The male were 13 and 27 females patients with a male to female ratio was 1.2.08. Maximum of the cases were seen in the age group of 21 to 40 years, with the youngest patient being 1 year and the oldest being 100 years. Melanocytic nevi were the most common pigmentary lesion which accounted for 72.5 % of the cases among them intradermal nevus which constituted 17 (42.5 %) followed by melanoma (27.5%). The most common site of melanoma was the extremities 9 (81.8%), while face 22 (75.9 %) was the commonest site for nevi. In this study, the benign pigmented lesion was more common than malignant melanoma. Further studies cover another geographic areas in Yemen are needed.

**Key words:** Nevi, Melanoma, Melanocytic lesion, Histopathological study.

### Introduction:

Pigmented lesions refer to melanocytic proliferations. They are composed of one or more of three related cell types: melanocytes, nevus cells or melanoma cells, each of which may be located in the epidermis or the dermis [34] Cutaneous melanoma which is one of the most serious skin cancers. Their incidence varies throughout the world. In Western countries, cutaneous melanoma is a relatively common malignancy, especially in populations with lighter skin colors [20]. According to World Health Organization, the number of melanoma cases worldwide is increasing faster than any other cancer [27]. According to the International Agency for Research on Cancer, its incidence is the highest in Queensland, Australia but is also high in Auckland, New Zealand [35] In the USA, melanoma is the fifth most commonly diagnosed cancer [33]. The incidence is low in Asian populations [32], but there is a definite upward trend in Koreans [5].

Sun exposure plays a primary and supporting role in most melanoma tumors. There is an evidence for the four main cutaneous types of melanomas, the pattern of excess sunlight exposure which is most damaging varies. Host susceptibility factors include dysplastic nevi, increased number of nevi, freckling, family history of melanoma, fair complexion, light eyes, and blonde or red hair [39]. Nevi and other benign pigmented lesions, except for their

cosmetic significance, are important as simulants of melanoma and as potential precursors of melanoma [37]. Identifying individuals at greater risk of developing melanoma are important. Therefore, this study was conducted to clarify the frequency and clinical presentation of melanocytic skin tumors and also because no study done before included all melanocytic type.

### Subjects and methods:

This is a retrospective, descriptive study included a total of 40 cases with pigmented skin lesions (1 year to 100 years) out of 60 cases referred to Private Pathology Clinic in Al-Mansoorah, Aden Governorate to exclude malignancy during the period (2006 – 2014). The non-melanocytic lesions were excluded. The following variables age, sex, and residence of patients, localization of lesion and the histological finding were analyzed by using SPSS/Windows, Version 21.

### Results:

The most affected age group was (21-40 years) old (37.5%) with mean age of 41.06 years, and  $SD \pm 24.8.72$ . Thirteen (32.5 %) of them were males and 27 (67.5%) were females. The male to female ratio was 1.2.08 (Table 1). Out of a total 40 cases, melanocytic nevi were the most common pigmentary lesion which accounted for 72.5% of the cases among them intradermal nevus which constituted 17 (42.5%) followed by compound nevi 4 cases (10%), junctional 3 cases (7.5%), Spitz nevi were 3 cases (7.5%), blue nevus and spindle cell nevi both constituted (0.5%). The Majority of the benign melanocytic lesions 22 cases (75.9%) were located on the

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face and scalp (Table 2). Melanoma were 11 cases (27.5%). It was observed in 5 males (45.5%) and 6 females (54.5%). Melanoma was found

more commonly on lower extremity 9 cases (81.8 %) (Table 3), only one case (9.1%) had metastases to inguinal lymph node.

**Table 1: Demographic Characteristics of Melanocytic Skin Tumors (n=40)**

Character	No	%
<b>Sex</b>		
Male	13	32.5
Female	27	77.5
<b>M:F</b>	1 : 2.08	
<b>Age (n=33)</b>		
1-20	6	18.2
21-40	15	45.5
41-60	4	12.1
>60	8	24.2
<b>Mean <math>\pm</math> SD =41.06 years <math>\pm</math> 24 .87</b>		
<b>Residency</b>		
IBB	17	42.5
Aden	11	27.5
Lahaj	5	12.5
Abyian	4	10
Shabowi	1	2.5
Hadramooth	1	2.5
Almahra	1	2.5

Un-specified age were 7 cases one of them melanoma.

**Table 2: Clinical and Pathological Characteristics of Patients with Nevi (n =29)**

Variable	No	%
<b>Sex:</b>		
Female	21	72.4
Male	8	27.6
<b>Age: (n=23)</b>		
1-20	6	26.1
21-40	15	65.2
41-60	1	4.3
>60	1	4.3
<b>Residents :</b>		
IBB	13	44.8
Aden	10	34.5
Lahj	3	10.3
Abyan	2	6.9
Shabowa	1	4.3
Almahra		
<b>Site:</b>		
Scalp & face	22	75.9
Trunk	2	6.9
Buttocks	2	6.9
Extremities	3	10.3
<b>Histological subtypes</b>		
Intradermal nevi	17	58.6
Compound nevi	4	13.8
Junction nevi	3	10.3
Spitz nevi	3	10.3
Spindle nevi	1	3.4
Cellular blue nevi	1	3.4

**Table 3: Clinical and Pathological Characteristics of Patients with Cutaneous Melanoma**

Variable	No ( n = 11)	%
<b>Sex:</b>		
Female	6	54.5
Male	5	45.5
<b>Age: (n=10)</b>		
>60	7	70
≤60	3	30
<b>Residents :</b>		
IBB	4	36.4
Aden	1	9.1
Lahj	2	18.2
Abyan	2	18.2
Shabowa	1	9.1
Almahra	1	9.1
<b>Site:</b>		
Lower limb (foot)	9	81.8
Groin	1	9.1
Face	1	9.1
<b>Shape:</b>		
Tumorous	10	90.9
Ulcerated	1	9.1
<b>Histological subtypes</b>		
Acral lentiginous melanoma	8	72.7
Nodular melanoma	2	18.2
Superficial Spreading melanoma	1	9.1
<b>Metastasis:</b>		
Yes	1	9.0
No	10	90.9

**Discussion:**

This retrospective study, addressed the melanocytic skin lesions. The melanocytic group comprised of benign melanocytic nevi, and malignant melanoma.

In India, in a study of clinical records, Sri Gayathri et al. [36], reported that benign nevus were the commonest one (74%), and malignant melanoma constituted (2.2 %). A similar finding from India in a study for 44 cases with pigmented skin lesions, also has been reported by Suvernakar et al. [37], in that benign melanocytic lesions was the most prevalent but with a lower frequency rate ( 27.27 %) and malignant melanoma which constituted (11.36 %) and the commonest histologic types of nevi lesions were intradermal nevi (58.3%), followed

by compound nevi (33.3%). This finding nearly similar to our finding in which benign lesions constituted the commonest melanocytic (72.5%) lesions. Intradermal nevi (42.5%) was the commonest, followed by compound nevi (10 %). Melanoma represented (27.5%).

Laishram et al. [21], in Imphal, also in a retrospective analysis of 183 cases with pigmented skin lesions reported higher rate (74.3%) of melanocytic nevi than melanoma which constituted (9.8%).

The frequency of cutaneous melanoma varies throughout the world. The highest rates of cutaneous malignant melanoma (CMM) belongs to Scandinavia (especially Sweden) with 15 cases per 100,000 inhabitants, and the lowest rates are from the Mediterranean countries (about

5 – 7 cases per 100,000 inhabitants per year [15]. Lower incidence rates by Alwunais and Ahmed (3.7%); Al-Maghrabi et al., (4.1%); and Alzolibani et al., (11.7%) have been reported from Dammam, Al-Baha, and Al-Qassim Region, and Saudi Arabia respectively [2,1,3].

In the current study, the majority were in the age group of 21-40 years (37.5 %), followed by (20 %) in the age group of > 60 years. The male to female ratio was 1:2.08. In contrast, Youl et al. [41], reported (52.41%) of the total cases in >50 years age group and M:F ratio of 1.4:1. Suvernakar. et al. [37], reported (47.73%) who were in the age group of 61-80 years, followed by (22.73%) in the age group of 21-40 years and M:F ratio of 1:1.1. This difference may be due to that they included in their study both melanocytic and non - melanocytic skin lesions and lack of data of age recording regarding some of cases in this study.

Incidence rates of melanoma differ between genders, ages, ethnic groups, and regions. Forsea et al. [14], reported that in Europe, there is a discrepancy concerning sex predominance. The majority of Western and Northern European countries report higher incidence rates in females vs. males, whereas in most Central, Eastern and Southern European countries melanoma predominates in men [14]. Balaban et al., in a retrospective study among 172 patients with primary melanoma from Bosnia and Herzegovina reported also that melanoma was equally common in women and men [4]. In Brazil, also in an epidemiological study by Ferrari et al.; Paek et al. ; and Tamir et al. [13,30,38], the authors reported that CMM affected men and women equally. Nasser in his study for individuals from Blumenau in south Brazil showed a predominance among females than males [28]. Countries with a high CMM incidence, such as Australia, tend to have a slight predominance of females over males or a balance between genders [8] whereas Marks, and Marrett et al.,[25,26] found that there was a higher rate of CMM in men. This is similar to a study carried by Brady et al., whom reported that men are more likely than women to develop melanoma [7]. Also, in a study conducted in Yazd, a central region of Iran, the authors showed that males were 1.5-times more likely to have melanoma than females [29].

In this study, the most affected age groups with cutaneous melanoma was over 60 years old 7 cases. This is similar to the data published in many literature [1,17,22,28].

When comes to anatomical localization. In our study, the majority of melanoma cases (9 cases, 81.8%) occurred in the extremities. This is in agreement with a study carried in India by Sri Gayathri et al. [36], in which the authors confirmed that the lower limbs were the most common anatomic sites and also study carried by Erdei and Torres [11]. Higher incidence rate (62%) was reported by Hussein et al., in Egypt [17], Balaban et al.[2], reported back and the limbs were the most common sites. In contrast, to a study carried in south of Brazil, the authors reported that trunk (30.19%), was the most commonly affected site followed by the upper limbs (19.34%) Lima et al.[23]; on the other hand, in a study for 20 years duration from cancer registry center in Yazd (Iran) the authors [29] mentioned that the face is the most common area (38%) of involvement. In this study, the gender difference was speculated to be due to clothing and body covering customs, as well as lower levels of employment outside the home for women. Bulliard et al. [9], in his study between two phenotypically comparable populations, New Zealand and Canada population, showed that the site affection differs among the two populations, in New Zealand patients, lower limbs were the most common site, while among Canadian patients, the trunk was the commonest site. In the current study, ALM was the most common histological subtype representing (72.7%) of melanoma cases. This result was similar to other studies carried out such as a study among 177 Korean patients and in Singapore in a retrospective study for 48 patients with histological confirmation of melanoma in which the authors reported acral as the most common type but with higher incidence rates 85.9% and 50%, respectively [19,22]. This is in contrast with western populations studies where ALM represents 2% to 3% of all melanoma [6].

Whiteman and others [40,10], have hypothesized that the anatomic site at which a melanoma develops is reflective of the susceptibility of host melanocytes to proliferate in response to sunlight.

Gender differences in body site distribution of melanoma lesions have been thought to be a result of inherent differences between men and women. Differences in clothing, hair style, occupation, sun-seeking behavior, preventive measures, and seeking medical care have all been considered as potential reasons for the higher incidence of lesions on the lower extremities in

women and lesions of the head, neck, and trunk areas of the body in men Bulliard et al. [9]; However, the reasons for the observed gender differences may go beyond societal differences among males and females, and depend on the relationship between steroid hormones [31].

In the international literature a higher rate for CMM has been observed among women, predominantly in geographic regions with low sunlight indices. These findings suggest the existence of a gender difference with changes in latitude. In this study, higher rate of CMM has been detected among individuals from low sunlight indices as in literature.

**Conclusion:** Nevi are vastly more common than melanomas the extremities which were the most common site for melanoma and slight predominance among females.

**Limitation:** Only melanocytic pigmented lesions were included in the study. No data available concern this topic from other clinics during data collection with explanation of some of our colleagues pathologist that data in their clinic was lost because of war.

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## دراسة إكلينيكية باثولوجية لأورام الجلد الميلانية لمرضى يمنيين

إكرام علي بدوي

### الملخص

تكمن أهمية الشامات الميلانية أساساً لعلاقتها النسيجية بميلانوما الجلد. والشامة المكتسبة يعتقد أنها منحدره من الخلايا الميلانية للبشرة التي هاجرت من عصب في الدماغ . هدفت: هذه الدراسة الوصفية الاسترجاعية إلى توفير البيانات الأساسية عن الأورام الجلدية الميلانية الخبيثة والحميدة في مرضى يمنيين . شملت هذه الدراسة الاسترجاعية 40 حالة لأورام الجلد الميلانية من أصل 60 حالة من الذين كانت تتراوح أعمارهم من سنة إلى مائة عام، خلال الفترة من 2006م إلى 2014م. وتم ترتيب وتدوين البيانات ديموغرافياً وأكليينيكياً ونسجياً. تبين من خلال هذه الدراسة بعد المراجعة والتحليل أن عدد الذكور كان 13 حالة وعدد الإناث 27 حالة، وبلغت نسبة الذكور إلى الإناث 1:2.08، وأن الغالبية العظمى هم من الفئة العمرية من 21 - 40 سنة، وكان أقل عمراً سنة وأكبر عمراً مائة سنة. وكانت الشامات الميلانية هي الأكثر شيوعاً، بنسبة 72.5% من الآفات الميلانية بما فيها الوحيمات الأدمية التي شكلت نسبة 42.5% (لعدد 17 حالة)، والميلانوما نسبة 27.5%، وكانت الأطراف السفلى هي أكثر أماكن تواجد للميلانوما حيث بلغ عدد الحالات 9 حالات التي شكلت نسبة (81.8%)، بينما شكل الوجه أكثر شيوعاً للشامات الحميدة، حيث بلغ عدد الحالات 22 حالة (75.9% ). وخلصنا إلى أن الآفات الميلانية الحميدة هي الأكثر إنتشاراً من الميلانوما الخبيثة. نوصي بقيام دراسات أخرى تغطي مساحات جغرافية أخرى من اليمن.

**الكلمات المفتاحية:** الشامات ، الميلانوما ، الآفات الميلانية ، دراسة نسيجية باثولوجية.