

ACTIVITY OF SKIN CANCER CLINIC AT MARTIN UNIVERSITY HOSPITAL IN 2017

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Abstract

The authors present new cases of malignant melanoma seen at the Skin Cancer Clinic of the University Hospital in Martin in the year 2017. There have been 112 new cases of malignant melanoma, 66 in men and 46 in women, diagnosed in 2017. We have recorded a occurrence of two melanomas in one person in 3 patients, two men and one women. One patient had metastatic melanoma found in lymph nodes without corresponding skin lesions. The most common tumor body localisation in both men and women was on the back (51 melanomas, 45 %). In women, the most common localisation was upper extremities (13 melanomas, 29 %), followed by lower extremities and the back at the same rate (11 melanomas, 24 %). In men, the most common localisation was on the back (40 melanomas, 60 %). Histologically, the most common type was superficial spreading malignant melanoma (50 melanomas), the second most common was non specific type of malignant melanoma (19 melanomas). The majority of cases were low risk lesions with histological Breslow thickness in the range from 0,1 mm to 1 mm (47 melanomas). High risk lesions with histological Breslow thickness more than 4 mm were the second most common type (24 melanomas).

Keywords: malignant melanoma – anatomical localisation – incidence in men and women – histological types of melanoma – Breslow thickness

INTRODUCTION

Malignant melanoma is skin cancer originating from melanocytes. It can arise from any melanocytes containing body part, including eyes and gastrointestinal tract. Early tumor recognition plays an important role in the surgical treatment because it significantly contributes to mortality from skin cancers. In general, the most common localisation in men is the back and in women the lower extremities. The mortality from malignant melanoma is raising worldwide, which is partly caused by the better diagnostic process but also by the patients lifestyle.

The incidence of melanoma is continuing to increase. UV exposure is a known risk factor for melanoma. Furthermore, epidemiologic data suggest that gender and genetics may influence the distribution of melanoma on the body surface and histopathologic characteristics of the lesion. Advanced-stage cutaneous melanoma has a median survival time of less than 1 year. Surgical removal, radiotherapy, chemotherapy, targeted therapies and a variety of immunotherapies have been utilized in the treatment of malignant melanoma. Once a rare cancer, the incidence of malignant melanoma skin cancer in most developed countries has

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risen faster than any other cancer type since the mid-1950s. Furthermore, melanoma is one of the most deadly skin cancers; one person dies every hour from melanoma in the USA (1). Detection and surgical treatment of early-stage disease seems to prevent progression in most cases. However, patients with deep primary tumors or tumors that metastasize to regional lymph nodes frequently develop distant metastases. Median survival after the onset of distant metastases is only 6–9 months, and the 5-year survival rate is less than 5 % (1).

METHODS

We have reviewed the medical records of all patients seen at the Skin Cancer Clinic at the Martin University Hospital in 2017. The data collected were as follows: patients age and gender, tumor body site localisation, tumor depth measured by ultrasonography, histological tumor type and histological tumor thickness (Breslow thickness). Ultrasonographic melanoma examination with measurement of its depth is a routine part preoperative evaluation of our patients. The examination has been done using high frequency (20 MHz) Dermascan C ultrasound machine (Fig. 1 a, b, c). Based on the measured tumor depth, the appropriate safety margin (between 10 mm to 20 mm) has been recommended for plastic surgery (Tab. 1) (Fig. 2 a, b) (2). When the tumor depth exceeded 1 mm, sentinel lymph node biopsy (SLNB) has been recommended. Multiple studies show that the status of the SLNB is an important prognostic indicator. Those with positive SLNBs have significantly decreased disease-free and melanoma-specific survival compared with those who have negative SLNs (3).

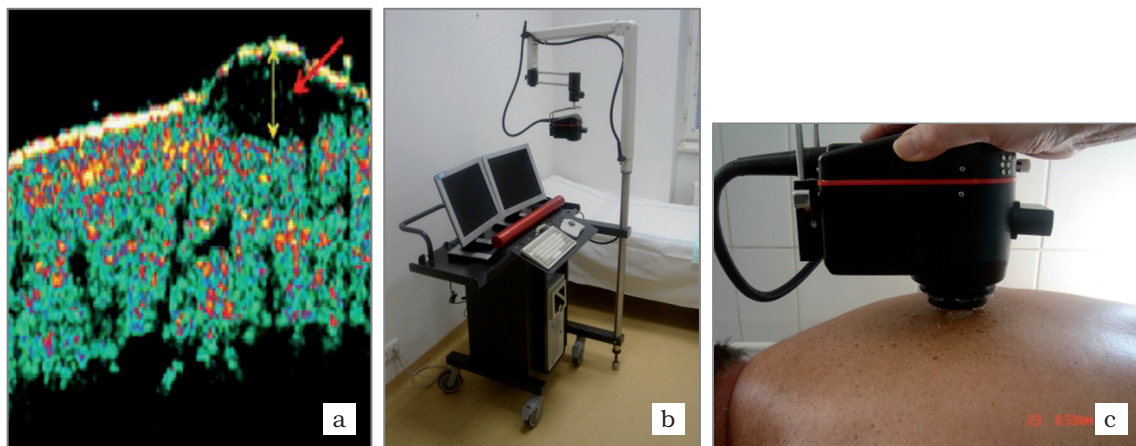


Fig. 1 a, b, c Preoperative ultrasonographic image of melanoma using Dermascan C (b, c). Yellow double arrow represents melanoma thickness and the red arrow the hypoechoogenic melanoma tissue below epidermis (a)

Tab. 1. Recommended safety margin for surgical melanoma excision according to the 51st Methodological letter of rational pharmacotherapy for melanoma patients management (2)

Melanoma Breslow thickness	Surgical margin
in situ	5 mm
< 2 mm	10 mm
> 2 mm	20 mm



Fig. 2 a, b Amelanotic melanoma with a Breslow thickness of 4 mm before (a) and after (b) surgical removal

RESULTS

The total number of patients examined in 2017 was 1924. We have diagnosed 112 new cases of malignant melanoma in this period, 66 in men and 46 in women (Fig. 3). Three patients had two melanomas at the same time, two men and one woman. The average patients age was 62 years. The most common tumor body localisation in both men and women was on the back (51 melanomas, 45 %) (Fig. 4). In women, the most common localization were upper extremities (13 melanomas, 29 %), followed by lower extremities and the back at the same rate (11 melanomas, 24 %) (Fig. 5). In men, the most common localisation was on the back (40 melanomas, 60 %) (Fig. 6). Histologically, the most common type was superficial spreading malignant melanoma (50 melanomas) (Fig. 7). In one patient, the primary skin melanoma localisation has not been found and the tumor was diagnosed only from a lymph node metastasis (Fig. 6).

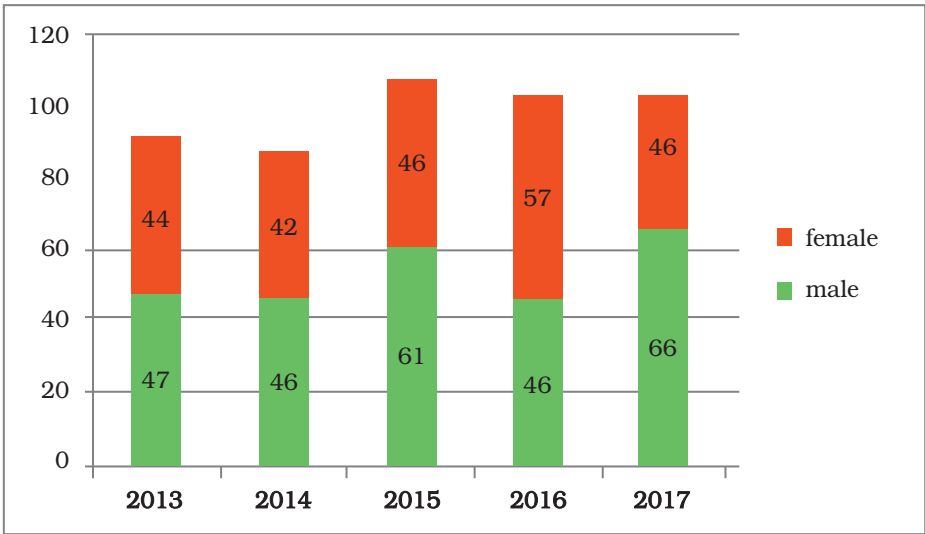


Fig. 3 Incidence of new melanomas at the Skin Cancer Clinic in Martin University Hospital

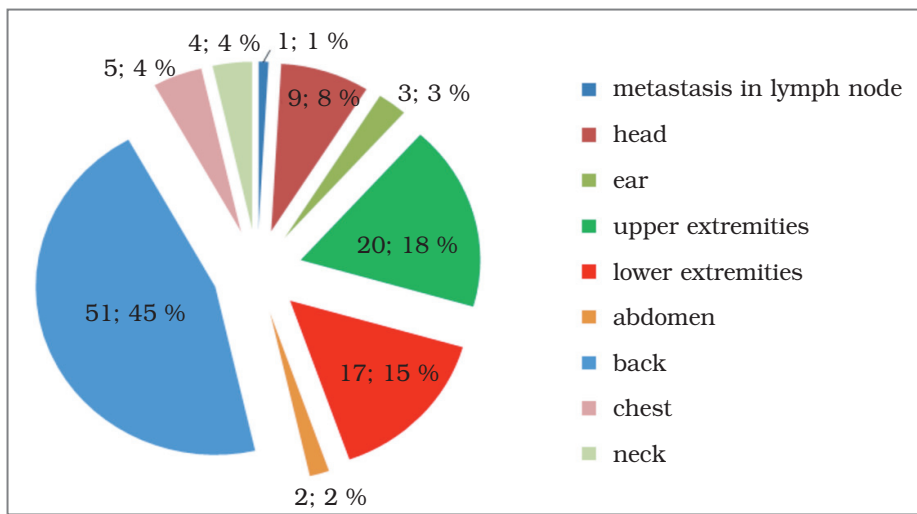


Fig. 4 Melanoma localisation in men and women in 2017

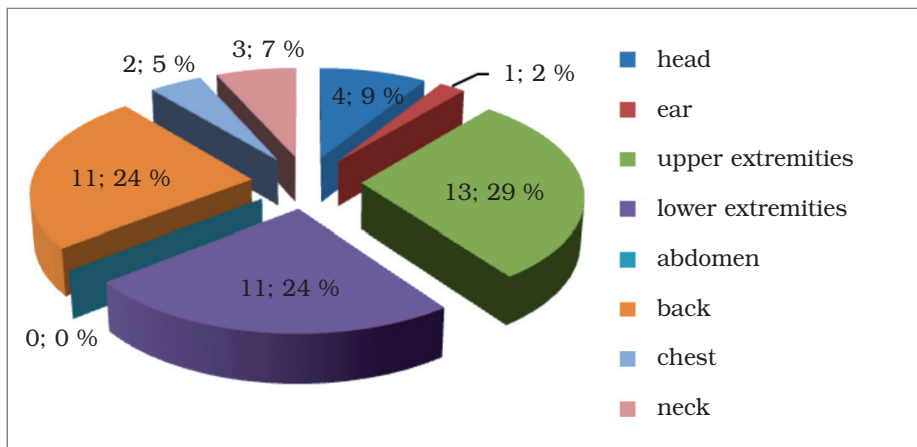


Fig. 5 Melanoma localisation in women in 2017

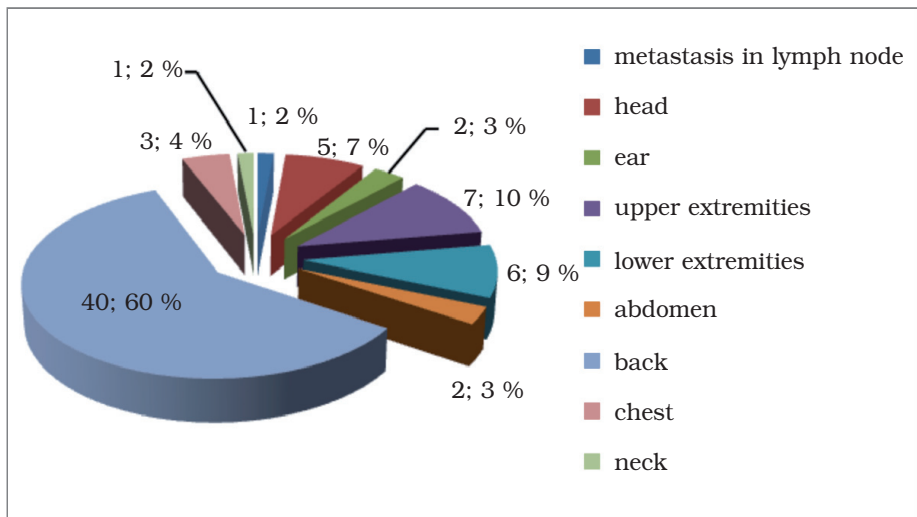


Fig. 6 Melanoma localisation in men in 2017

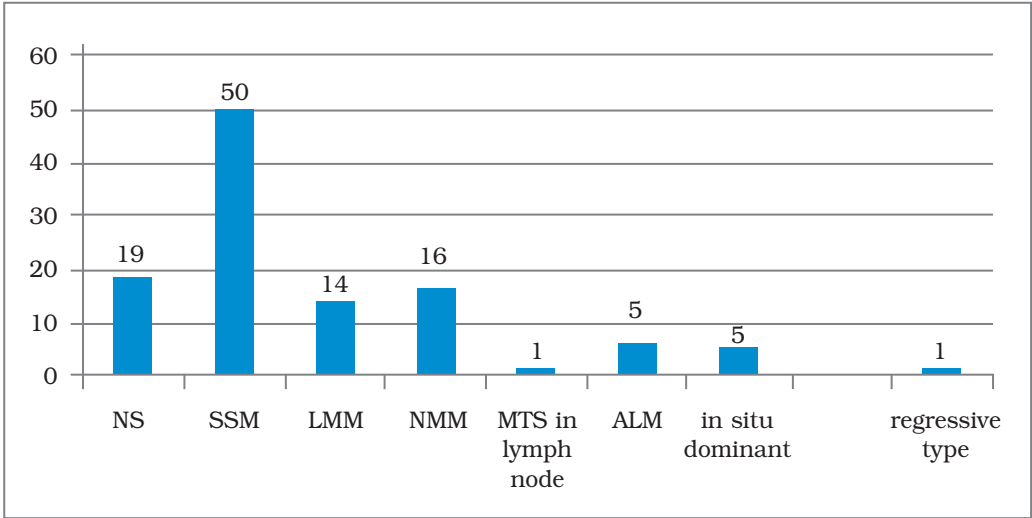


Fig. 7 Histological melanoma types in 2017

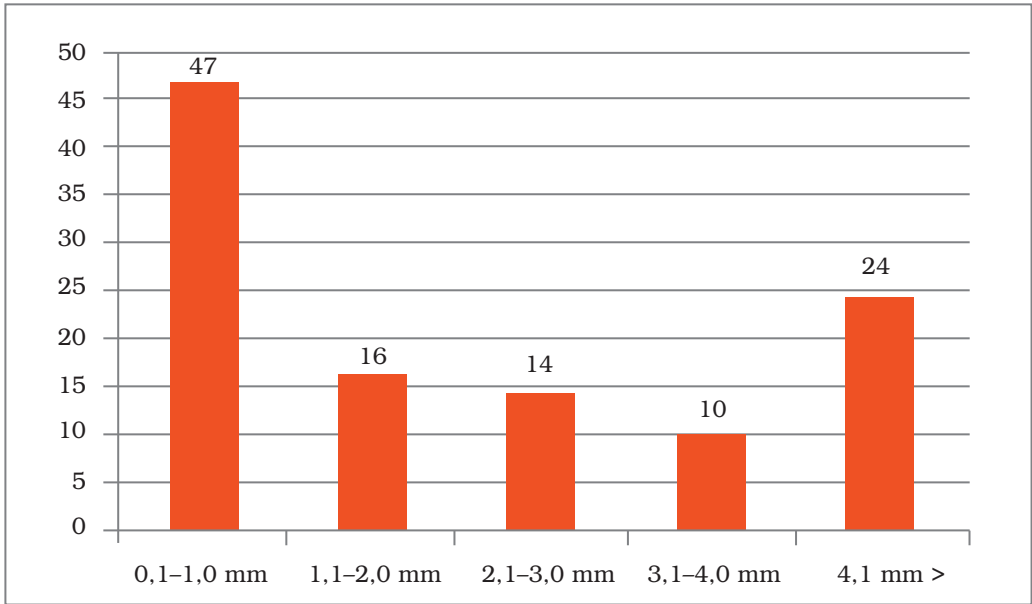


Fig. 8 Breslow thickness in men and women in 2017

The second most common type was non specific type of malignant melanoma (19 melanomas), followed by nodular type (16 cases) and lentigo maligna melanoma (14 cases) (Fig. 7, 9–12). The acral lentiginous melanoma was observed in 6 cases (Fig. 7, 13). The low-risk melanomas with Breslow thickness 0,1–1 mm was the most frequent lesion (47 cases) (Fig. 8). High-risk melanoma with Breslow thickness above 4 mm was the second most common finding (24 cases) (Fig. 8). Five patients had dominant in situ melanoma, that carries very good prognosis (Fig. 7, 14).



Fig. 9 Lentigo maligna melanoma with Breslow thickness of 2 mm



Fig. 10 Nonspecific type of melanoma with a Breslow thickness of 0.8 mm



Fig. 11 Superficial spreading melanoma with a Breslow thickness of 2.4 mm



Fig. 12 Nodular melanoma with a Breslow thickness of 3.3 mm



Fig. 13 Acral lentiginous melanoma with a Breslow thickness of 8.2 mm



Fig. 14 Melanoma dominant in situ with a Breslow thickness of 0.25 mm

DISCUSSION

Trends in melanoma incidence have shown an increase in thinner, less lethal tumors in recent years (4). Higher incidence of low-risk malignant melanomas has been found also in our patients in 2017. The higher frequency of low-risk type of melanoma in 2017 (47 melanomas) suggests better prognosis and patient survival (Fig. 8). In numerous studies tumor Breslow thickness has been shown to be the most important prognostic factor for patients with localized cutaneous melanoma. In one population-based study of 548 patients in Connecticut, tumor thickness was the most significant prognostic factor for survival of patients with localized cutaneous melanoma (5). From the epidemiological standpoint it is necessary to follow-up a long term trend of the Breslow thickness in malignant melanomas. We have reported a slow trend of increasing frequency of low-risk melanomas over last several years (6). Development of melanoma depends on the presence of enviromental risk factors. Patients with critical phenotype should modify their seasonal activities and especially exposure to the sun. From 2008 to 2012, 6,623 cases of melanoma were diagnosed among Hispanics. Rates were higher among males (4.6) than among females (4.0) (7). Melanoma incidence in our patients has also been higher in men, except for 2016, where there was slightly higher rate in women (Fig. 3). The most common histologic subtype among Hispanics was superficial spreading melanoma (23 %) (7). Similar results have been found in our patients (Fig. 7). Acral lentiginous melanoma (41 %) and nodular melanoma (41 %) were the two commonest histologic types in a tertiary dermatological centre, Singapore, between 1989 and 1998 (8). This type of melanoma occurred in our patients minimally, in 6 cases only (Fig. 7,13). A potential diagnostic pitfall in the histologic assessment of melanoma is the inability to recognize unusual melanoma variants (9). Of these, the more treacherous examples include the desmoplastic melanoma, the nevoid melanoma, the so-called „minimal-deviation melanoma“, melanoma with prominent pigment synthesis or „animal-type melanoma“, and the malignant blue nevus (9). To such tumor types belongs also amelanotic and regressive type melanoma, which was diagnosed in two of our patients (Fig. 15). In such case, because it is impossible to measure the tumor thickness, the prognosis is uncertain.



Fig. 15 Regressive melanoma on the back of male

Hispanic females had the highest proportion of melanoma on the lower limb and hip (33.7 %), while Hispanic males had the highest proportion on the trunk (29.9 %) (7). Our women patients had the tumor most frequently localised on their upper and lower extremities (29 % a 24 %) (Fig. 5). Site-specific rates were consistently highest on the lower limbs in females followed by the trunk in males of cutaneous melanoma in England, 1979–2006 (10). The location of 1542 incident melanomas diagnosed during the period 2004–2011 in the French Champagne – Ardenne region (1.3 million inhabitants) was recorded using a regional registry

and questionnaires sent to physicians. Melanomas predominated on the lower limb in women (32.2 % vs. 9.3 % in men; $P < 0.01$) and on the trunk in men (41.8 % vs. 14.9 %; $P < 0.01$) (11). In a tertiary dermatological centre, Singapore, between 1989 and 1998, 27 patients were diagnosed with histology proven malignant melanoma. There was a predominance of Chinese with a female to male ratio of 1.3 : 1. Most of the lesions (89 %) occurred on the extremities (8). Unfortunately, melanoma strikes individuals in USA in the prime of their lives (median age: 52 years), almost a decade before most solid tumors arise (e.g., breast, colon, lung or prostate) (1). We found the same average age of 62 years in men and women in 2017. The youngest patient was 29 and the oldest 93 years old. Bulliard *et al.*, conducted a seminal study that was the largest of its kind at the time, in which they compared the site distribution of melanoma in 41,331 incident cases from two phenotypically comparable populations from New Zealand and Canada (12). The authors chose these two populations of patients because they share a primarily European ancestry. However, the incidence rates and UV exposures of the two countries are vastly different. The trunk and face were the predominant areas for lesions in the Canadian patients and the lower limbs were the most common sites in the New Zealand patients. Bulliard and colleagues were able to determine that the risk of developing melanoma varied in a site-specific manner and that environmental and lifestyle factors influence the site distribution in these populations (12). Our melanoma patients reported a frequent sun exposure especially during summer garden work. Development of multiple primary cutaneous melanomas is a well-recognized phenomenon. Through a search of the computerized data bank of the Pathology Department and the Melanoma Registry of the Pigmented Lesion Clinic at Massachusetts General Hospital, 41 patients with multiple cutaneous melanomas were identified. The male to female ratio was 2:1. The median number of primary melanomas was two (88 %). Three patients had three and one had five. Melanoma types included superficial spreading (70 %), nodular (8 %), lentigo maligna (2 %), and unclassified (10 %), and in 7 % the type was unknown. Nineteen (46 %) patients had histologic and/or clinical evidence of DN – dysplastic nevi (13). These data confirm the need for complete skin examination for patients with newly diagnosed melanoma; and, with subsequent melanomas appearing as long as 31 years after the first melanoma, continued follow-up with complete skin examinations seems prudent (13). We have recorded a occurrence of two melanomas in one person in 3 patients, two men and one women. Melanoma is characterized by fast spread and early metastasizing, therefore the only chance for a successful therapy is its early diagnosis.

CONCLUSIONS

Our 2017 patient analysis confirmed again that dermatologists significantly contribute to the early recognition of malignant melanoma. The incidence has increased by 21 new cases in comparison to the year 2013. Zilina county is our geographical patient referral area with 690 778 inhabitants in 2016. The incidence of new melanoma has been between 80 – 120 per year in this region. The higher occurrence of melanoma on the upper and lower extremities in women may suggest that women more than men expose their whole skin to sun. The higher incidence of melanoma on the back in men may be explained by more frequent sun exposure of the upper body part during summer outside work and less frequent use of sun protective measures. Early melanoma recognition is extremely important, especially because of the high occurrence on the back, where it can not be detected by patient yourself without a help of another person or a mirror. From 112 melanomas diagnosed in 2017, 47 tumors were with low risk and histological Breslow thickness of less than 1 mm which carries an excellent prognosis for patients. We also found a special case of malignant melanoma diagnosed from lymph node only, without any skin lesion, which confirms, that melanoma is not only a skin tumor.

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