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SEBORRHEIC KERATOSIS: CAN IT BE A MELANOMA IN DISGUISE?

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Abstract

Review

Background: Seborrheic keratosis (SK), a raised black or brown papillomatous papule or plaque on the skin, is the most common benign skin tumour [1]. Over 80% of people over the age of 50 years have this type of skin tumour [1]. Its clinical presentation develops in later stages of life and can sometimes show similarities with a malignant melanoma. It is of crucial importance to detect melanoma in an early stage to prevent its dangerous progression.

Objective: This review compares SK with malignant melanomas in terms of clinical presentation, diagnosis and treatment.

Clinical presentation: If not well trained, SK and melanoma might look similar in terms of clinical presentation. However, the latter is a malignant condition in contrast to the benign SK. SK is generally a small, well-circumscribed lesion. Melanomas can be characterised by the ABCDE acronym. This acronym stands for (A)symmetry, (B)order irregularity, (C)olour variation, (D)iameter and (E)volving. In order to differentiate SK and malignant melanoma, mainly clinical criteria are used. SK does not necessarily need a treatment due to its benign nature [1]. The treatment of malignant melanoma is much more complex in comparison to SK due to the health consequences, severity of disease and differences in responding tumours [2]. The treatment of localised disease (stage I-III) consists of wide excision of primary tumours (*in situ*) with corresponding safety margins, which depend on the Breslow thickness [2]. Chemotherapy, or sometimes radiotherapy, might be applied if the tumour has metastasised.

Conclusion: Early detection of malignant melanoma is crucial, due to the clinical implications and disease severity. Melanomas can sometimes look clinically similar to SK, where the presence of a pigment network is the most important difference to suspect melanoma. SK does not necessarily need treatment. For physicians, it remains of utmost importance to critically inspect the lesion. Treatment of malignant melanoma varies widely and is tailored according to the stage of the melanoma.

KEYWORDS: Skin tumour, skin disease, chemotherapy, dermatology

Introduction

Dermatologists inspect suspicious looking skin lesions on a daily basis. While ageing, most of us develop darkened spots on their skin or even raised plaques. Seborrheic keratosis (SK) is a raised black or brown papillomatous papule or plaque and is the most common benign skin tumour [1]. This is present in 80% to 100% of people over the age of 50 years [1]. Due to its clinical presentation and the development in later stages of life, it can be suspected to be a melanoma. However, melanomas may also present themselves early in life.

A century ago, malignant melanoma was a very rare type of skin cancer [3]. However, the incidence of melanoma skin cancer is increasing and the lifetime risk of developing malignant melanoma has reached one in fifty persons on average [3]. It has become the fifth (for men) or sixth (for women) most frequent type of cancer. While SK is benign and harmless, melanomas are malignant skin tumours which lead to death. This review sets out to compare SK with malignant melanomas in terms of clinical presentation, diagnosis and treatment.

Clinical presentation

One of the differential diagnoses for SK is malignant melanoma [1]. SK presents itself as a raised, generally small, well-circumscribed plaque or papule that can look like a wart. The colour of the lesion can vary from reddish to brownish and the size ranges from a few millimetre up to a centimetre [1, 4]. SK presents itself frequently on the head and neck as just a single lesion, but a group of lesions may also appear. The lesions might show an irregular pattern or become irritated, and thereby mimic a malignancy [4]. Naevi, and therefore melanomas, can be characterised by the ABCDE acronym. This acronym stands for (A)symmetry, (B)order irregularity, (C) olour variation, (D)iameter and (E)volving. The latter was added for the diagnosis of nodular melanomas [3]. The criteria of the acronym can be seen as a checklist for naevi suspected to be a melanoma. There is a wide variety of clinical presentation for both SK and melanomas. This might make it hard for the untrained eye to certainly diagnose SK and melanoma. The following paragraph describes the diagnosis of either one of the tumours.

Diagnosis

Mainly clinical criteria are used to diagnose SK and malignant melanoma. SK diagnosis is based on the appearance and specific features of the lesion and the location, of which a pigment network is the most important distinction. Dermatoscopic features of SK are milia-like cysts and comedo-like openings [1]. Milia-like cysts (horn pearls) are round, white to yellowish structures and are not specific for SK, but is frequently seen [1]. Furthermore, the comedo-like openings (crypts), are brownish holes in the surface of the SK [1]. Lastly, the dermoscopic criteria include a brain-like appearance. Another way of diagnosis is taking a biopsy and confirm the diagnosis by means of histology [1]. This can be useful when lesions are itchy or bleed, are inflamed or changed into a dark colour [1]. It is important to note that if a melanoma is suspected, one should perform a diagnostic excision instead of a biopsy.

Just like SK, malignant melanomas are diagnosed using clinical features. Skin self examination has been of importance, since early discovered melanomas are mostly easily treated. Therefore, in 1985 the ABCDE acronym was established. The sensitivity of self skin examination is between 57%

Table 1: Overview SK treatments and their indication.

	1st treatment	2nd treatment	3rd treatment
Raised SK	Curettage or cautery	-	
Flat SK	Cryotherapy	Curettage	Laser, dermabrasion, chemical peel

and 90% [3]. Another tool that has been developed for early detection is the Glasgow 7-point checklist. This checklist contains three major criteria (evolving size, shape and colour), and four minor criteria (change in sensation, diameter greater than 7 mm, inflammation and crusting or bleeding) [3]. Since this checklist is more complex, it is not widely adopted. Dermoscopy is especially important for early diagnosis. This technique uses optic magnification to highlight features cannot be seen with the naked eye. Dermatologists then look at seven criteria: (1) atypical pigment network, (2) irregular dots/globules, (3) irregular streaks, (4) irregular pigmentation, (5) regression structure, (6) blue-whitish veil and (7) vascular patterns [3]. The final discussed method for diagnosis of melanoma is reflectance confocal microscopy [3]. This is a non-invasive examination of the skin that uses near-infrared light that passes through the upper layers of the skin [3]. The reflected light is captured and an almost histologic resolution can be reached. However, this is not done in daily clinical practice.

The guidelines, as presented by the European Society for Medical Oncology, state that complete diagnosis of melanoma should be based on a diagnostic excision, with a minimal side margin of 2 mm [2]. In higher stages (III-IV, when metastasis occur) mutation testing is mandatory in order to detect mutations that are targets for personalised treatment (e.g. *BRAF* mutations), whereas testing primary tumours for mutations is not recommended [2]. Staging and mutational testing is necessary in order to define the optimal treatment with the highest survival outcomes. In the following paragraphs, considerations are described regarding treatment options of melanoma. The tumour stages IIIB and IIIC (the letter depends on the tumour number of lymph nodes involved, whether it has satellite or in-transit lesions, and if it appears ulcerated), a complete image investigation of chest, abdomen and pelvis should be performed.

Treatment

It is not necessary to treat SK due to its benign nature [1]. If the SK becomes irritated, uncomfortable or itching, it can be removed by several forms of treatment [1]. Table 1 depicts an overview of the different treatments and their indication. People who started the treatment have a high chance to see good results [1].

The treatment of malignant melanoma is much more complex in comparison to SK due to the health consequences, severity of disease and differences in responding tumours [2]. The treatment of localised disease (stage I-III) consists of wide excision of the primary tumour (*in situ*) with corresponding safety margins [2]. The size of the excision is guided by the Breslow thickness (measure of how deeply a melanoma has grown into the skin) of the melanoma. A sentinel lymph node biopsy for precise staging is recommended for tumours with a thickness less than 0.8 mm with ulceration or between 0.8 and 1 mm with or without ulceration. Also, a sentinel lymph node biopsy should be taken if ulceration is present [2]. Patients with resected stage III melanoma should be evaluated for adjuvant interferon therapy (immune therapy that uses natural glycoproteins that are produced by cells of the immune system) [2]. As a therapeutic option, surgical removal and irradiation of locoregional recurrence or single distant metastasis should be considered. This has the potential for long-term disease control [2].

Following the guidelines of the European Society for Medical Oncology, if a patient has metastatic melanoma, the metastasis or the primary tumour should be screened for a specific mutation (*BRAF-V600*) [2]. This enables the treatment options of first-and second line setting. This includes anti-PD-1 antibodies and anti-CTLA4 antibodies [2]. BRAF/MEK inhibitor combinations can also be utilised for patients with a *BRAF*-mutant melanoma. If these medicines are not accessible, the cytotoxic DTIC (dacarbazine) or temozolomide may be administered, with limited efficacy [2].

Conclusion

Early identification of melanoma is crucial due the clinical implications and severity of disease of malignant melanomas. Because of the sometimes similar presentation, physicians need to remain critical when evaluating a lesion. SK is easily treated and treatment is usually not necessary. On the other hand, early diagnosis and staging of malignant melanoma is crucial. Treatment of malignant melanoma varies widely and is tailored according to the stage of the melanoma.

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