

Dermoscopic patterns of cutaneous metastases

Study of the International Dermoscopy Society (IDS)

www.dermoscopy-ids.org

Coordinators

Danica Tiodorovic

danica.dr@gmail.com

Harald Kittler

harald.kittler@meduniwien.ac.at

1. No previous submission to the IDS

2. Executive summary of the project (181 words)

The recognition of cutaneous metastases of different primary tumors represents a diagnostic challenge. The frequency of cutaneous metastases ranges from 0,2 to 9% in autopsies carried out in patients with cancer. Cutaneous metastases may occur synchronously or metachronously with the diagnosis of the primary tumor, or may represent the first manifestation of an undiagnosed malignancy. Since the differential diagnosis of cutaneous metastases include melanoma, benign melanocytic lesions, and other malignant and benign proliferations of the skin, the approach to cutaneous metastases requires a deep understanding of the morphologic spectrum of these lesions.

While dermatoscopy is useful for many skin lesions, pigmented and non-pigmented, only limited data exist regarding the dermatoscopy of skin metastases, with no precise description of dermatoscopic patterns for various underlying primary malignancies. A possible reason for this might be that skin metastases other than melanoma metastases are rarely examined by dermatologists and the lack of experience of other specialties, especially oncologists, in the use of dermatoscopy. However, the prompt diagnosis of such lesions is crucial, due to potential implications for prognosis and management of patients with progressive disease.

3. Project objectives (126 words)

We are aiming at collecting and analyze a large number of both pigmented and non-pigmented cutaneous metastases of different primary malignant tumors. The aim of this study is to describe clinical and dermatoscopic features of cutaneous metastases and determine a specificity of these features comparing them with a control group consisting of both benign and malignant lesions with clinically similar features , in order to differentiate distinctive dermatoscopic patterns that are reproducible and accurate and will help to diagnose these rare skin lesions with more confidence. We address a specific clinical problem such as the improvement of dermatologists' accuracy in discriminating between cutaneous metastases and other types of benign and malignant lesions, and more imporantly, the early recognition of these lesions based on specific dermatoscopic patterns.

4. Data analyzing

The collected data of cutaneous metastases and randomly selected pigmented and non-pigmented, benign and malignant, macular, papular or nodular skin lesions matching broad clinical appearance of cutaneous metastases will be analysed regarding colors, dermatoscopic patterns and vessels.

5. Target audience: specialists and/or residents

6. Inclusion criteria:

1. Clinical and dermatoscopic images of cutaneous metastases. The number of cases is restricted to one case per patient. Only if the clinical appearance of cutaneous metastases is morphologically different, more than one case should be included.
2. All participants should obtain two or three cases of randomly selected either benign or malignant, pigmented or non-pigmented, macular, papular or nodular lesions that match to the clinical (non-dermoscopic) features of the cutaneous metastases sent by participants themselves.
3. Unequivocal histopathologic diagnoses of cutaneous metastases of a malignant solid tumor (also for review if necessary)
4. Histopathological diagnosis of the primary tumor (optional)

7. Exclusion criteria:

1. Dermatoscopic images with low resolution quality
2. Lack of histopathological diagnosis of cutaneous metastases

8. Evaluation of images:

Two experienced dermatologists in dermatoscopy will evaluate each dermatoscopic image of cutaneous metastases and other selected benign and malignant skin lesions, blinded to diagnosis, on a computer screen for the presence of dermatoscopic features. When no agreement is achieved by two clinicians concerning the evaluated dermatoscopic features, a third expert in dermatoscopy will be consulted.

9. Statistical analysis:

Standard descriptive statistics will be used to describe demographic, clinical and dermatoscopic data. Continuous variables will be expressed as the mean \pm standard deviation when normally distributed and as the median \pm interquartile range for non-normal variables. Categorical data will be summarized into number and percentage of the population. Comparisons of continuous variables between groups will be performed using independent t-test or Mann-Whitney test, depending on their distribution. The differences in categorical data (types of tumors, locations, etc.) will be compared using chi-square test or the Fisher exact test, as appropriate. A p value <0.05 was considered statistically significant.

10. Corresponding author: Prof. Harald Kittler

11. Type of study: international, multicenter, descriptive, cross sectional study

12. Manuscript for publication

All colleagues with completed cases will be named in the manuscript if possible. In the case of high number of participating colleagues for the journal, the maximum of colleagues according to the number of included cases will be named and the remaining colleagues will be included into the "Group of IDS Cutaneous Metastases Collection" which refer to the list of all participating colleagues into the manuscript.

13. Coordinator of the data collection

Danica Tiodorovic

danica.dr@gmail.com