

Title: PIGMENTED EPITHELOID MELANOCYTOMA

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Background: Pigmented epithelioid melanocytoma” (PEM) is a term proposed by Zembowicz *et al* in 2004 to describe a distinctive highly pigmented melanocytic lesion with atypical features merging with the so-called “animal-type melanoma.” Histologically indistinguishable from “epithelioid blue nevus,” which is associated with Carney complex, PEM is characterized by nodular aggregates of dermal pigmented epithelioid and dendritic cells and interspersed melanophages. PEM is a rare tumor with a predilection for young people. It typically presents clinically as a darkly pigmented, slowly growing nodule in young patients. It is usually a dermal tumor with a blue/gray color. It occurs on the face, trunk, extremities, and genitalia. Although reports are rather limited, there is evidence to support the notion that the tumor follows an indolent clinical course, with very low risk of spread beyond regional lymph nodes. Of patients who underwent SLN biopsies, 46% of patients in the series of Zembowicz *et al* exhibited lymph node metastases, supporting a high rate of regional spread. There has been only 1 documented case of a distant metastasis of PEM to the liver. So far there are no guidelines for clinicians or studies regarding the true biology of the lesion due to rarity of this kind of the lesions.

Objective of the study:

To investigate correlation regarding dermoscopic, clinical and histological features of melanocytomas and as well their biological course and prognosis of the patient.

Methods:

Members of the IDS are invited to submit any case of histologically confirmed melanocytomas. High quality clinical and dermoscopic pictures of the lesions are required to participate in this study. Histological pictures are also required and will be used to evaluate dermoscopic-pathologic correlations. Dermoscopic images of lesions will be retrospectively evaluated for the presence of predefined morphologic criteria. Two experienced dermatologists in dermatoscopy will evaluate each dermoscopic image. When no agreement is achieved by two clinicians concerning the evaluated dermatoscopic features, a third expert in dermatoscopy will be consulted.

The data revealed by the analysis will be processed using statistics anonymously in order to be able to obtain information which constitute the purpose of the study. The electronic archive will be stored in a dedicated PC located in the investigator's office. The access to this PC is restricted to authorized personnel. The data already collected from patients who subsequently withdraw from the study will not be processed. Personal collected data are available to each co-authors, unless you have different suggestion about it taking in account previous studies.

The following information should also be provided:

1. Information regarding the lesion- presenting as single lesion, newly developed or in conjunction with congenital nevus
2. Lesion size, localization and duration- clinical diameter should be always recorded
3. Information of the follow-up of the patient- how long and which type of follow up has been done- clinical examination and imaging methods
4. information of the ultrasound of regional lymph nodes/SLNB
5. Patient's age and gender
6. Type of dermoscope used (polarised vs non-polarised) and photo equipment
7. Description of histological findings and information if the diagnosis was made in collaboration (more than one institution)
8. Below is a list of criteria which should be checked histopathologically and documented with microphotographs.

- Silhouette (quadrangular, wedge, nodular, plaque-like)
- Thickness (Breslow's criteria)
- Asymmetric involvement of the epidermis (y/n)
- Ulceration (y/n)
- Mitotic activity (up to 2 mitoses/mm²; >2 mitoses/mm²)
- Inflammation (none; perivascular; perivascular and interstitial)
- Necrosis (y/n)
- Atypia of the epithelioid component (random [isolated cells] vs confluent)
- Dendritic cell processes (thin/regular vs thick/irregular)
- 'Combined' nevus (y/n)
- Others

Ethics

EC wiver will be obtained

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.

Relevant points:

1. Please send images to Dr Ruzica Jurakic Tonic (rjtoncic@gmail.com)
2. Any images used in the study will remain at the property of the participant who has submitted these images. They will be used only for the purposes of this study. Any use of images will be first discussed with the investigator.
3. Data collection will be done in 6 months or study. In case of low number of cases, the deadline will be extended.

Manuscript for publication:

Each participant sending at least one case will be listed as co-author in a possible manuscript; if the number of contributors is too high 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", which refers to the list of all participating colleagues into the manuscript.

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References:

1. Zembowicz A, Carney JA, Mihm MC. Pigmented epithelioid melanocytoma: a low-grade melanocytic tumor with metastatic potential indistinguishable from animal-type melanoma and epithelioid blue nevus. *Am J Surg Pathol.* 2004;28:31-40.
2. Mandal R.V., Murali R., Lundquist K.F., et al: Pigmented epithelioid melanocytoma: favorable outcome after 5-year follow-up. *Am J Surg Pathol* 2009; 33: pp. 1778-1782
3. Bax MJ, Brown MD, Rothberg PG, Laughlin TS, Scott GA. Pigmented epithelioid melanocytoma (animal-type melanoma): An institutional experience. *J Am Acad Dermatol.* 2017;77:328-332.