The parametric dot in Merkel cell carcinoma, how does it form and what does it do?

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Background and aim: The paranuclear dot (dot) pattern is a histological feature used to diagnose the neuroendocrine skin cancer Merkel cell carcinoma (MCC). The paranuclear dot is composed of small aggregates of strongly cytokeratin-positive, paranuclear, and usually binucleated tumor cells. The paranuclear dot, as a surrogate for viral antigen expression, is the major distinguishing feature in MCC as compared to other cutaneous neuroendocrine neoplasms such as paragangliomas and atypical Huxley cells. Studies have demonstrated that the paranuclear dot is associated with a more favorable prognosis than the lack of paranuclear dot formation. However, the exact mechanism responsible for paranuclear dot formation is unknown.

Methods: We performed thorough literature searches to describe the paranuclear dot in MCC and summarize current views on the molecular basis. We searched PubMed (1996-2020) using the following keywords: “Merkel cell carcinoma,” “paranuclear dot,” “immunohistochemistry,” “cytokeratins,” “nuances,” “Genetic,” “epigenetic,” “MicroRNA,” “HSP90 inhibitors,” “MET,” “PD-1/PD-L1,” and “Cancer specific Immunotherapies.”

Results: The paranuclear dot in MCC appears to be composed of paranuclear stacks of cytokeratins (CKs), which contain viral antigens. Several studies have demonstrated that the paranuclear dot is associated with a more favorable prognosis than the lack of paranuclear dot formation. The presence of paranuclear dot is predictive of a better outcome in most studies and appears to be associated with an increased expression of I-A/B/DP molecules as well as CD4+ and CD8+ T cells. Additionally, the paranuclear dot is an independent predictor of survival in most studies.

Conclusions: The paranuclear dot is a histological feature associated with improved clinical outcomes in MCC. The exact mechanism responsible for paranuclear dot formation is unknown, but it is likely to be related to the expression of viral antigens and immune responses. Further studies are needed to elucidate the molecular basis of paranuclear dot formation and the underlying mechanism responsible for its association with improved clinical outcomes in MCC.

Understanding the Influence of Patient Demographics and Socioeconomic Status in Merkel Cell Carcinoma

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Background and aim: Socioeconomic status (SES) is a determinant of health outcomes; however, little is known about the relationship between SES and Merkel cell carcinoma (MCC). We aimed to evaluate the relationship between SES and MCC in a large population-based sample.

Methods: We used the SEER-Medicare database to identify individuals aged ≥66 years with MCC diagnosed from 2010 to 2017. We calculated cause-specific survival (CSS) using death from any cause as the endpoint. We used Cox proportional hazards regression to estimate cause-specific survival in the overall sample and by the SES. Results: We identified 4,351 patients with MCC, of whom 80% were white, 18% were African American, and 2% were other races. The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9). The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9). The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9). The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9). The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9). The median age at diagnosis was 76 years (IQR, 70-82). The median follow-up time was 4.4 years (IQR, 1.1-7.9).

Conclusions: SES was associated with survival among MCC patients. Higher SES was associated with improved CSS in MCC. Understanding the relationship between SES and MCC is important for tailoring interventions to improve outcomes and reduce disparities in care.