

Immunohistochemistry (Non-core)

The use of Immunohistochemistry (IHC) is recommended to confirm the diagnosis of Merkel cell carcinoma (MCC). It is invaluable, whenever the clinical and histopathologic findings are such that other tumours need to be considered in the differential diagnosis (e.g., lymphoma, metastatic neuroendocrine carcinoma of extracutaneous origin, Ewing's sarcoma). IHC is also helpful for the detection of micrometastatic tumour deposits in sentinel lymph nodes.¹ Various antibodies can be used including, but not limited to cytokeratin 20, CAM 5.2, AE1/AE3, chromogranin, synaptophysin, CM2B4, INSM1 and neurofilament. Positivity can be variable between antibodies and can be perinuclear dot-like, cap-like, cytoplasmic or cell membranous. The tumour should be negative for lymphoid and melanoma markers. Strong and diffuse labelling for thyroid transcription factor (TTF-1) favours metastatic neuroendocrine carcinoma of extracutaneous origin.

Merkel cell carcinoma has the ability to reflect the biological heterogeneity of normal Merkel cells and accordingly there is no one immunohistochemical profile that applies to all MCC. For example, cytokeratin 20 is considered to have a sensitivity of approximately 90%, whereas others claim a greater sensitivity for neurofilament.

References

- 1 Allen PJ, Busam K, Hill AD, Stojadinovic A and Coit DG (2001). Immunohistochemical analysis of sentinel lymph nodes from patients with Merkel cell carcinoma. *Cancer* 92(6):1650-1655.