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Endothelial Proliferation

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Synonyms

Vascular endothelial proliferation

Definition

Endothelial proliferation is an increase in vascular endothelial cells needed for the growth of new or existing blood vessels. It is stimulated by solid tumors that need to generate blood vessels to continue growth. It contributes to angiogenesis in tumor formation (Louis and Cavenee 2005) and results from overexpression of vascular endothelial growth factor (VEGF). Endothelial proliferation is one of the characteristics of malignancy

in gliomas as defined by the World Health Organization's primary central nervous system tumor grading system (Kleihues et al. 1993). Endothelial proliferation is associated with breakdown in the blood-brain barrier (Kracht et al. 2004). It is a feature of malignancy that indicates poor prognosis but is considered in combination with other features such as genetic markers that predict tumor growth.

References and Readings

- Kleihues, P., Burger, P. C., & Scheithauer, B. W. (1993). The new WHO classification of brain tumours. *Brain Pathology*, 3(3), 255–268.
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- Louis, D. N., & Cavenee, W. K. (2005). *Molecular biology of central nervous system tumors*. Boston: Massachusetts General Hospital, MGH Neurosurgical Service, Brain Tumor Center. <http://brain.mgh.harvard.edu/MolecularGenetics.htm>.