

Volume transfer constant

To ascertain if the [volume transfer constant](#) ([Ktrans](#)) derived from T1 [dynamic contrast-enhanced magnetic resonance imaging](#) (DCE-MRI) correlates with the immunohistological markers of angiogenesis in high-grade gliomas.

Fifty-one image-guided biopsy specimens in 34 patients with newly presenting high-grade gliomas (grade III = 16; grade IV = 18) underwent preoperative imaging (conventional imaging and T1 DCE-MRI). We correlated vascular endothelial growth factor (VEGF) expression and the microvessel density (MVD) of MRI-guided biopsy specimens with the corresponding DCE-derived Ktrans. Histological sections were stained with VEGF and CD34, and examined under light microscopy. These histological and molecular markers of angiogenesis were correlated with the Ktrans of the region of interest corresponding to the biopsy specimen.

The Ktrans showed a significant positive correlation with VEGF expression ($\rho = 0.582$, $P = 0.001$) but not with MVD stained with CD34 antibody ($\rho = 0.328$, $P = 0.072$).

The Ktrans derived from DCE-MRI can reflect the VEGF expression of high-grade gliomas but not the MVD ¹⁾.

¹⁾

Di N, Yao C, Cheng W, Ren Y, Qu J, Wang B, Yao Z. Correlation of dynamic contrast-enhanced MRI derived volume transfer constant with histological angiogenic markers in high-grade gliomas. J Med Imaging Radiat Oncol. 2018 Jan 13. doi: 10.1111/1754-9485.12701. [Epub ahead of print] PubMed PMID: 29330968.

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