Glioblastomas extension on DTI: prospective and comparative study versus metastases and healthy subjects

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Rationale
Occult tumor cell invasion along white matter fibers is inapparent in conventional MRI. We aimed to precise glioblastomas extension on Diffusion Tensor Imaging (DTI) through a prospective and comparative study.

Patients, material and methods
Glioblastomas (n=15), metastases (n=9) and healthy controls (n=15) were included. DTI parameters were analyzed, particularly in the normal appearing white matter (NAWM) beyond peritumoral area.

Results
Specific DTI abnormalities were found in glioblastomas such as hyperanisotropia and morphological modifications in the NAWM.

Keywords: Glioblastoma, MRI mapping, Metastasis behavior, DTI