



ON-LINE FIG 1. Box-and-whisker plot (median, 25th and 75th percentiles, minimum, maximum, and outliers) of f , D^* , fD^* , and D , as measured in ROIs of the maximum perfusion fraction f . Dark gray indicates high-grade tumors ($n = 16$); medium gray, low-grade tumors ($n = 11$; five with pathologic diagnosis, 6 with radiologic diagnosis); light gray, contralateral control region of both high- and low-grade tumors. P values are indicated when $<.05$.

On-line Table 1. Patient demographics and tumor localization, included on radiologic criteria only

Low-Grade	Age (yr)	Sex	Localization
1	49	Female	Right parietal lobe
2	53	Male	Left parietal lobe
3	47	Male	Right insula
4	47	Female	Left frontal lobe
5	20	Male	Tectal plate
6	43	Male	Left frontal lobe

ON-LINE APPENDIX

Materials and Methods

In this complementary study, the inclusion criteria for low-grade tumors were widened to include tumors that were diagnosed as highly probable low-grade gliomas on radiologic criteria only by 2 experienced neuroradiologists (P.M. and P.H.) in consensus, using the criteria of absence of progression in size during an extended time period and no contrast uptake. This permitted including 6 further cases for a total of 11 low-grade tumors (On-line

Table 1). The identical analysis leading to Fig 3 was performed to obtain On-line Fig 1.

Results

In the region of interest of the maximum IVIM perfusion fraction in the 11 low-grade tumors defined on pathology or radiology, $f = 0.083 \pm 0.026$, $D^* = 0.0096 \pm 0.0042 \text{ mm}^2\text{s}^{-1}$, $fD^* = 0.00083 \pm 0.00059 \text{ mm}^2\text{s}^{-1}$, which were very similar to the values found for low-grade tumors defined on pathology only. The corresponding P values of this group versus the high-grade tumor group were $P = .0003$, $P = .14$, and $P = .02$, for f , D^* , and fD^* , respectively.

In the contralateral white matter brain region in the 11 low-grade tumors defined on pathology or radiology, $f = 0.064 \pm 0.014$, $D^* = 0.0095 \pm 0.0030 \text{ mm}^2\text{s}^{-1}$, $fD^* = 0.00068 \pm 0.00025 \text{ mm}^2\text{s}^{-1}$. The corresponding P values of this group versus the high-grade tumor group were $P = .00000001$, $P = .15$, and $P = .000002$, for f , D^* , and fD^* , respectively.