

# Case Report

LEAKAGE CORRECTION



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**LEAKAGE CORRECTION**

The leakage correction is an algorithm developed to take into account the Blood-Brain-Barrier (BBB) disruption due to tumor proliferation. In these high-permeability areas, the leakage correction algorithm allows to avoid estimation biases due to the leakage of contrast agent when calculating the cerebral blood volume (CBV).

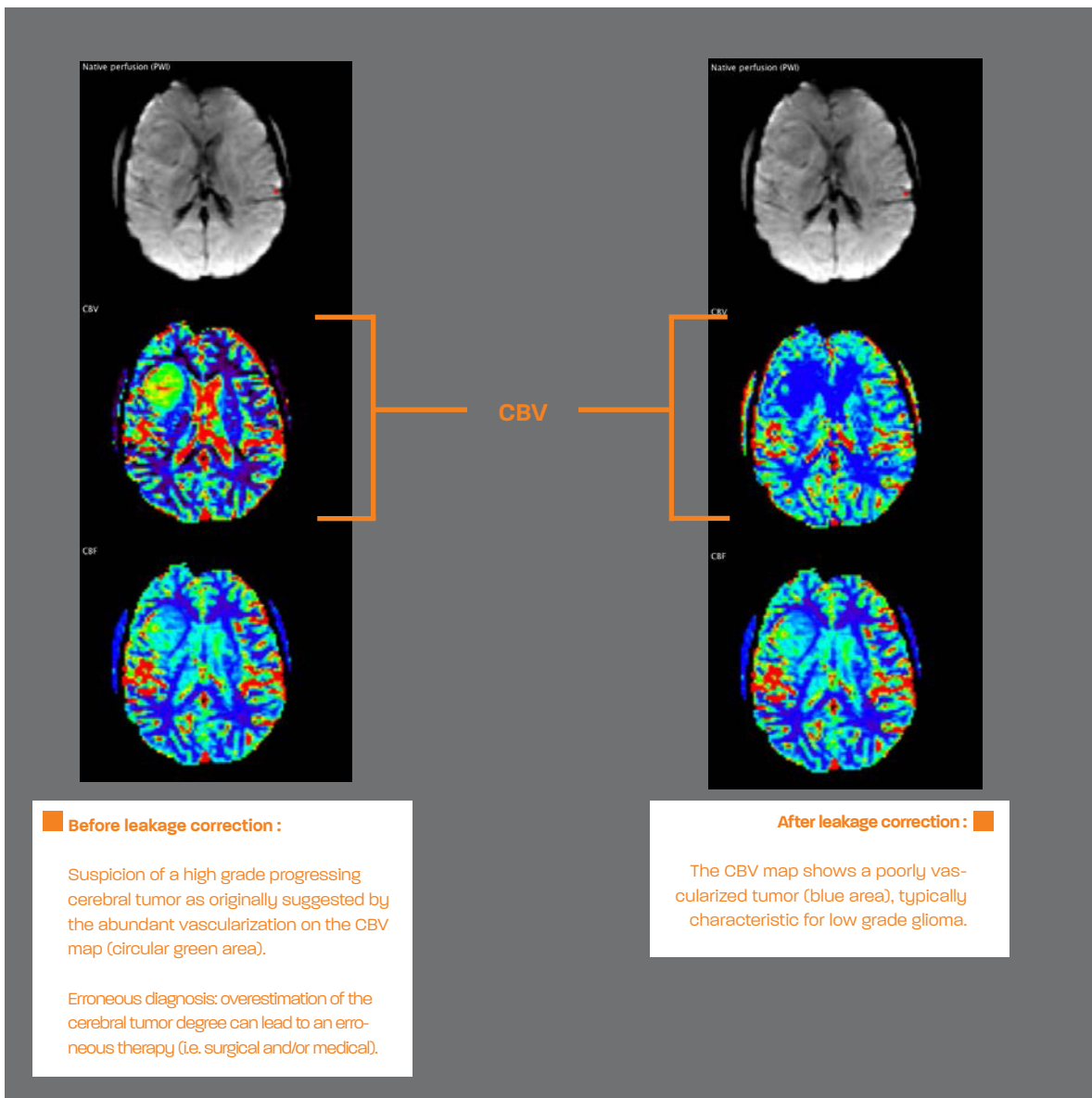
Therefore, in cases of cerebral tumors, the leakage correction is paramount to avoid CBV overestimation.

NB : The CBV relates to the tumoral vascularization and provides direct information on the neo-angiogenesis

This mathematical method significantly impacts on the diagnosis process on the tumor characterization.

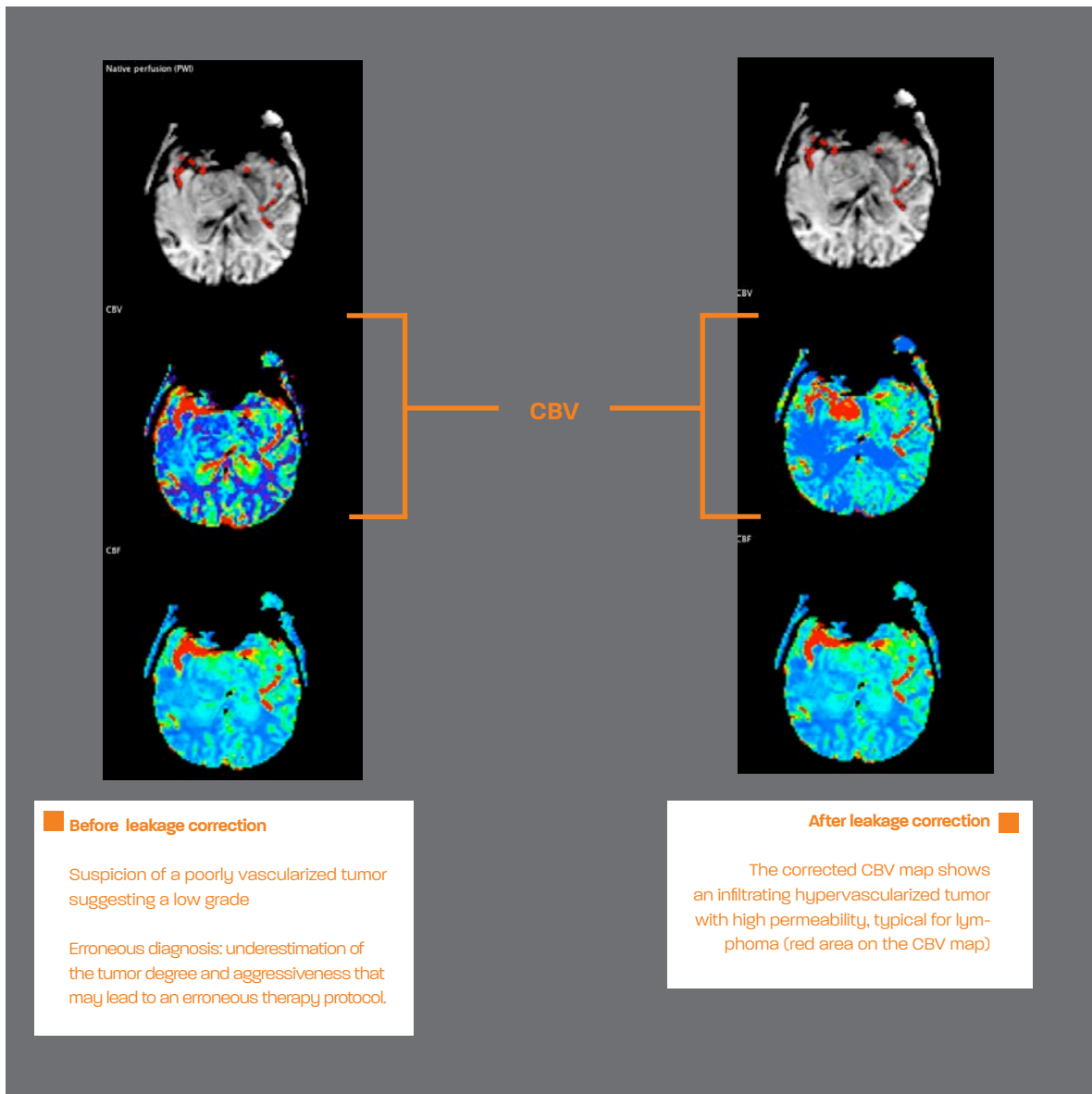
**CBV OVERESTIMATION:**

Tumor diagnosis: Insular front-temporal glioma, a low grade cerebral tumor (benign), with a low vascularization and therefore a slow evolution.



## UNDERESTIMATION

Tumor diagnosis : Cerebral lymphoma – highly aggressive hypervascularized cerebral tumor



## CBF :

The CBF map allows the display of the cerebral blood flow in order to detect any flow abnormalities.

Olea Medical's post-processing algorithms provide more contrasted CBF maps than those obtained with the standard deconvolution algorithms (sSVD). Therefore they are significantly more useful to detect in vivo hemodynamic changes and abnormalities.

**DIAGNOSIS IMPACT:** high CBF are typical for malignant tumors.

**FOLLOW-UP IMPACT:** Changes in CBF maps are typical for recurrent tumors. The CNF is the first marker to detect tumor recurrence.