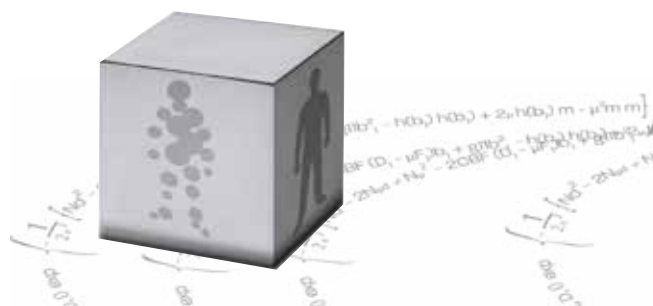


Case Report

CBF MAP FOR TUMOR ASSESSMENT



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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.

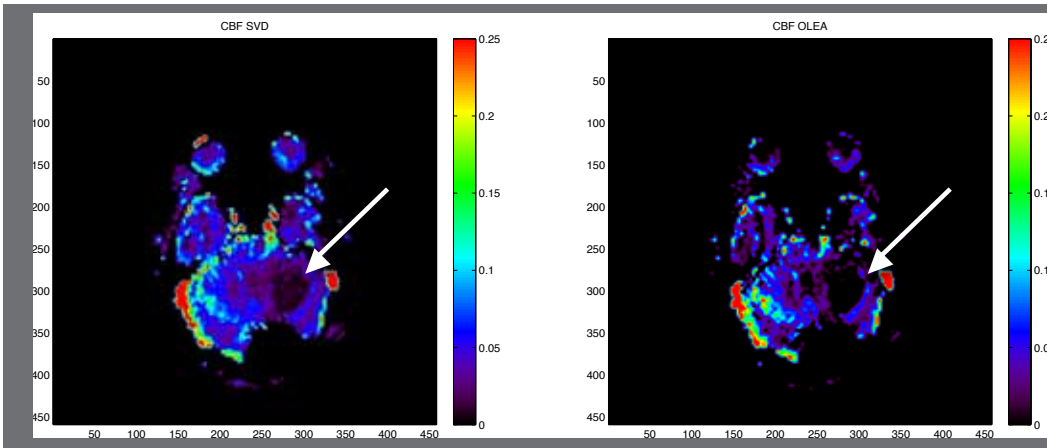
DIAGNOSIS IMPACT: CBF changes are typical of malignant tumors.
FOLLOW-UP IMPACT: Changes in CBF maps are typical of recurrent tumors. The CBF is the first marker to detect tumor recurrence.

Low CBF

The standard method shows a collapsed blood flow only by comparison with the contralateral healthy tissue, whereas with Olea Medical's optimized algorithm the flow abnormality is much more visible in the lesional area. Indeed, this method takes into account the in situ physiological changes; therefore the hemodynamic alterations are estimated more precisely.

In this example, the cerebral flow within the tumor is significantly lower than normal, suggesting a specific type of tumor.

CONCLUSION : a high risk of overestimation of low CBF with the standard method (sSVD)



High CBF

Conversely, in such cases of higher CBF, the standard method underestimates blood flow. The areas pointed by a white arrow show the differences that may occur in the calculation of the peaks of cerebral blood flow values within the tumor.

Just like in the previous example, Olea Medical's optimized post-processing algorithm allows a more realistic quantification of CBF leading to a better characterization of the tumor type.

CONCLUSION : risk of underestimation of high CBF with the standard method (sSVD)

