



Tumor Enhancement using Ultra Small Superoxide contrast agent

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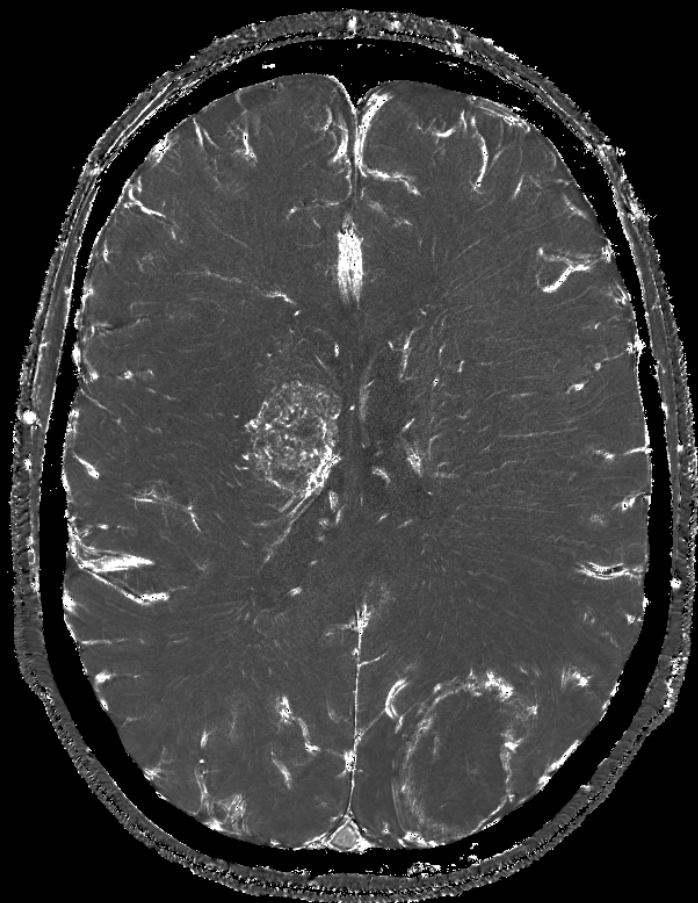
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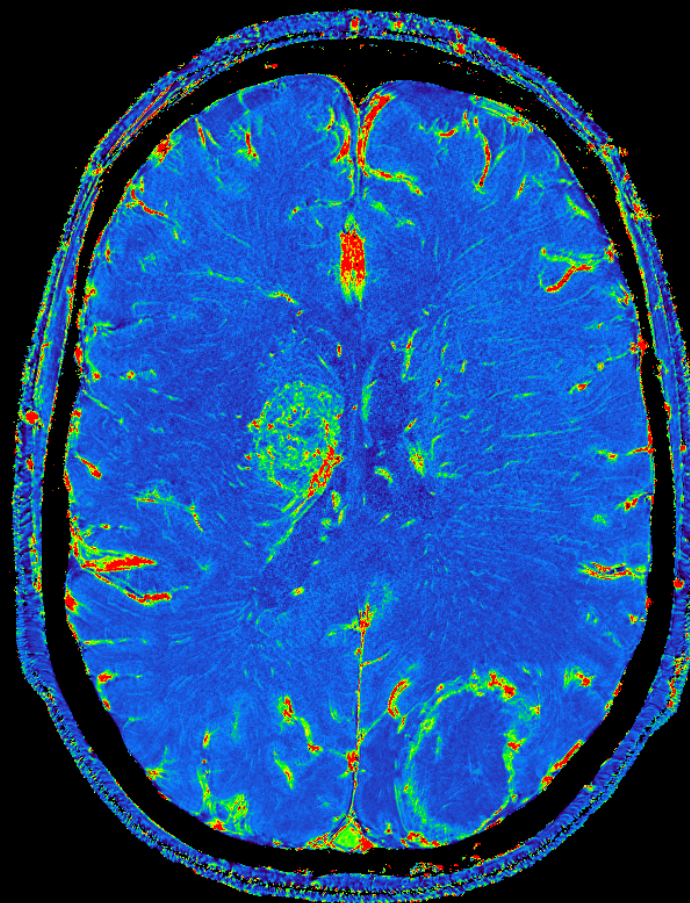
Ratio of Pre- and Post- Ferumoxytol

- There are two scans with resolution $0.25 \times 0.25 \times 1.5 \text{ mm}^3$: Pre-, and Post- 3mg/kg Ferumoxytol. The magnitude images were co-registered then a ratio of the two images was given by $(S_{\text{pre}}/S_{\text{post}}) * 100 \text{ pu}$.
- This ratio image might be the way to show capillary level of Ferumoxytol intake on the tumor.

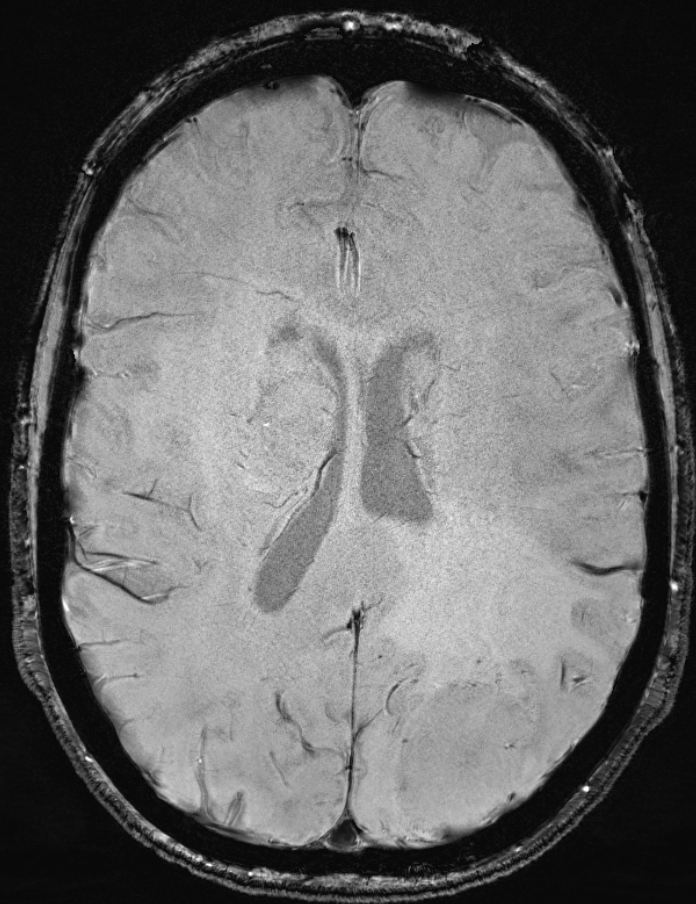
Slice#32, Pre/Post



Slice#32, Pre/Post



Slice#32, Pre SWI



Slice#32, Post SWI



Slice#26, minIP Post-SWI, eTH=16.5mm



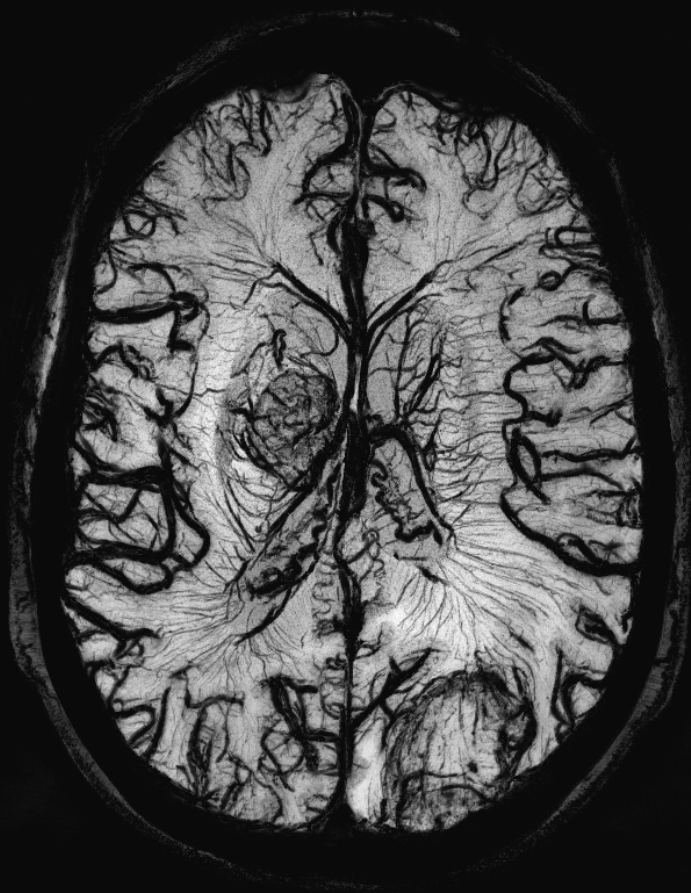
Slice#26, MaxIP Post-iSWIM, eTH=16.5mm



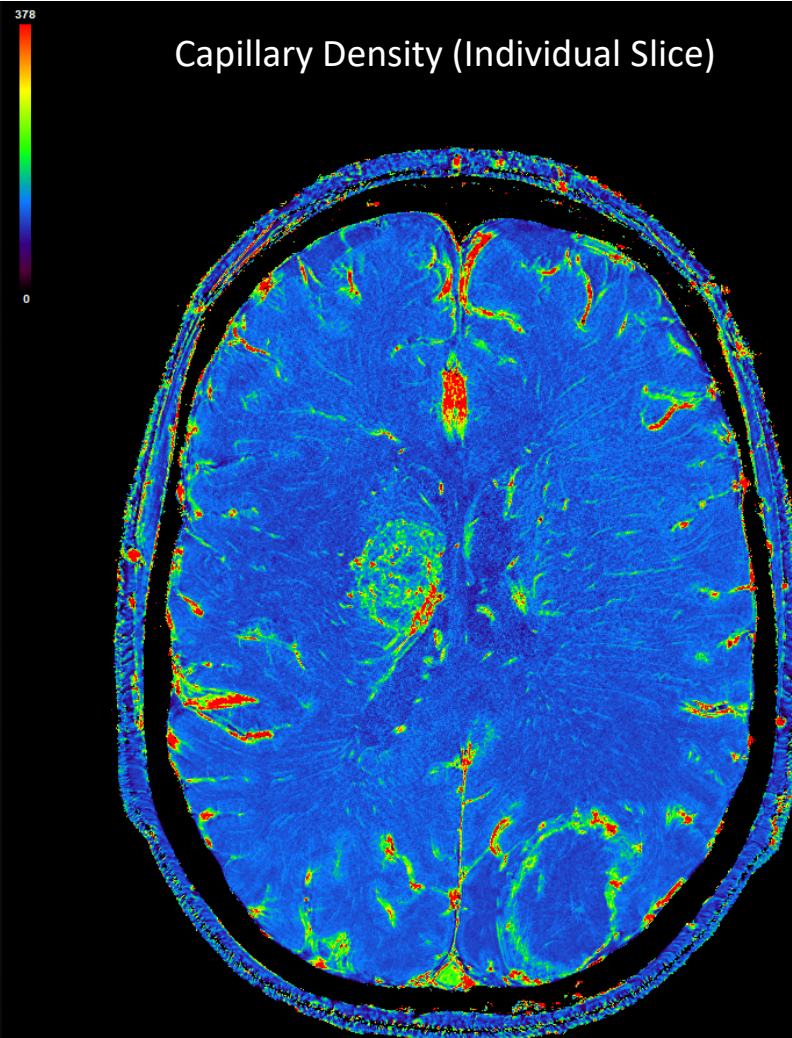
Ferumoxytol Enhanced SWI

- Ferumoxytol is an FDA approved ultra-small superparamagnetic iron oxide for treating anemia which can be used as an off-label contrast agent in MRI to enhance cerebral Microvascular. High resolution Ferumoxytol enhanced SWI has a promising interest to evaluate metastases and its vascular supply.
- With a spatial resolution of $0.25 \times 0.25 \times 1.5 \text{ mm}^3$ and 3mg/kg Ferumoxytol, 64 slices were acquired in 11 minutes at 3T showing tremendous cerebral Microvascular. A capillary density map was generated by taking the ratio of pre- and post-Ferumoxytol magnitude images to present invisible blood supply of metastases.

Ferumoxytol Enhanced SWI (minIP)



Capillary Density (Individual Slice)



Courtesy of Dr. E. Mark Haacke, Wayne State University