# Multimodal Partial Volume Correction: application to [$^{11}$C]PIB PET/MRI myelin imaging in multiple sclerosis

Supplementary Material

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**Figure 1 - Graphical representation of wavelet decomposition when applied to a 3D volume as a MRI scan** *(second row)* **and PET image** *(third row)*.

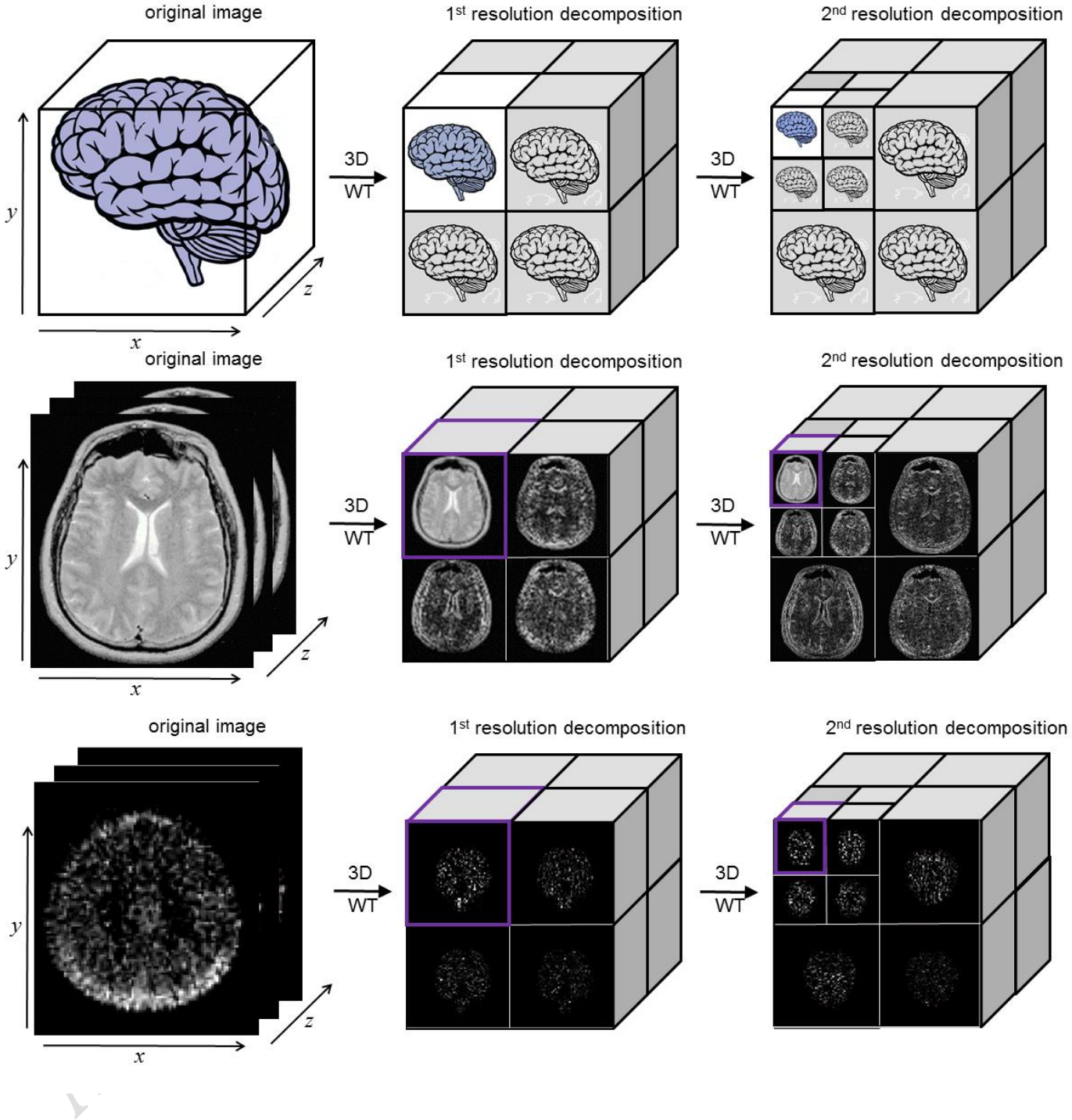

**Figure 2 - Contrast local analyses.** The mean and standard deviation of white matter (WM)/grey matter (GM) contrast values are reported for Scanner PET images and MM-RR PET images for different ROI sizes.

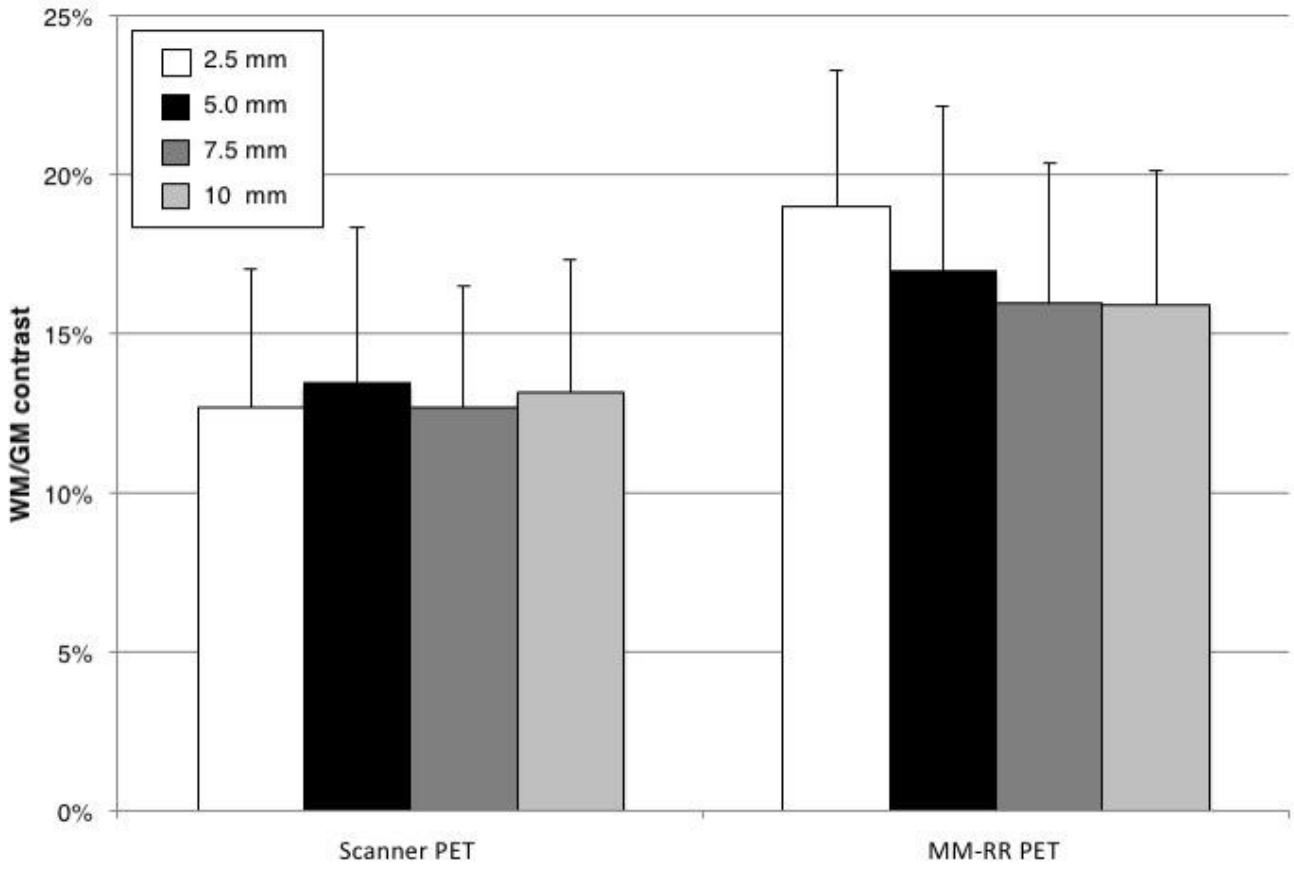


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**Figure 3 - Comparison of [$^{11}$C]PIB DVR lesion quantification between Scanner PET and MM-RR PET as function of the lesion volume.** Each mark (white circle for Scanner PET and grey square for MM-RR PET) shows the average [$^{11}$C]PIB DVR for a given lesion and its volume. The two lines represent the regression model of the data (dashed line for Scanner PET and solid line for MM-RR PET)

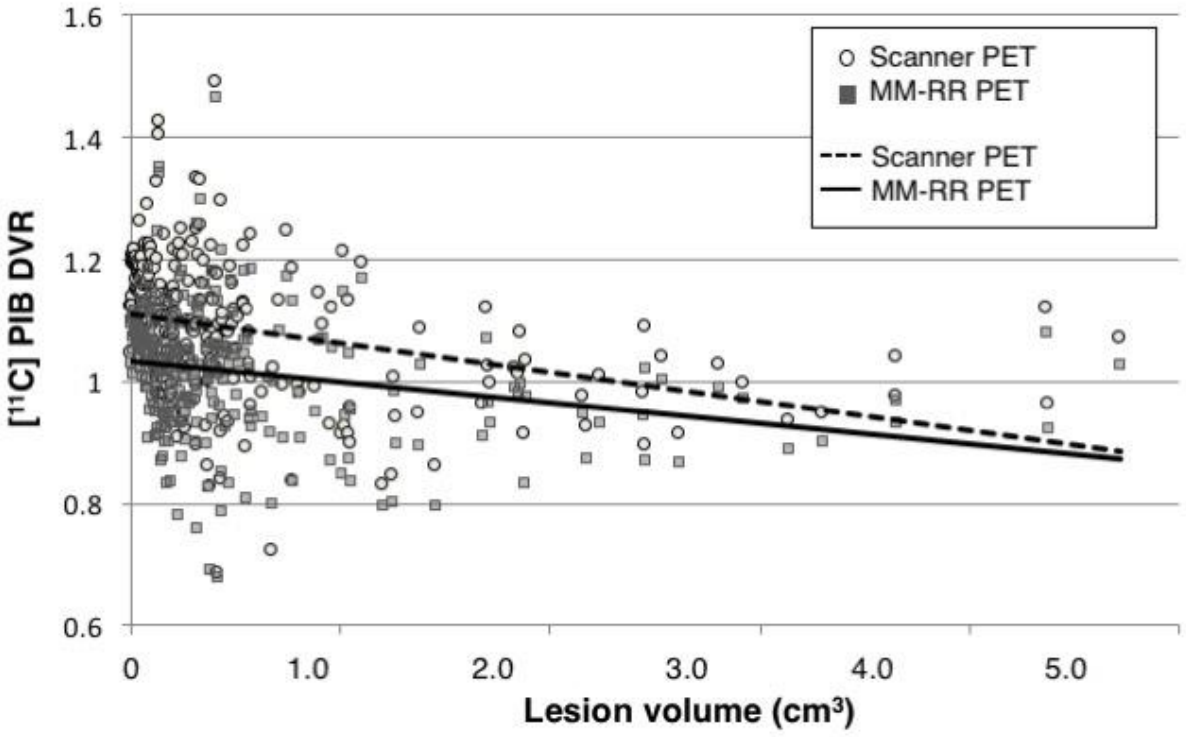


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**Figure 4 – Application of the MM-RR method to [$^{18}$F]FDOPA PET Imaging.** The figure shows the axial view from a representative control subject of a [$^{18}$F]FDOPA PET/MR scan. Left column structural MRI image; central column Scanner PET; right column MM-RR PET. Colorbars for PET images represent dopamine synthesis capacity ($K_i^{cer}$ 1/min).

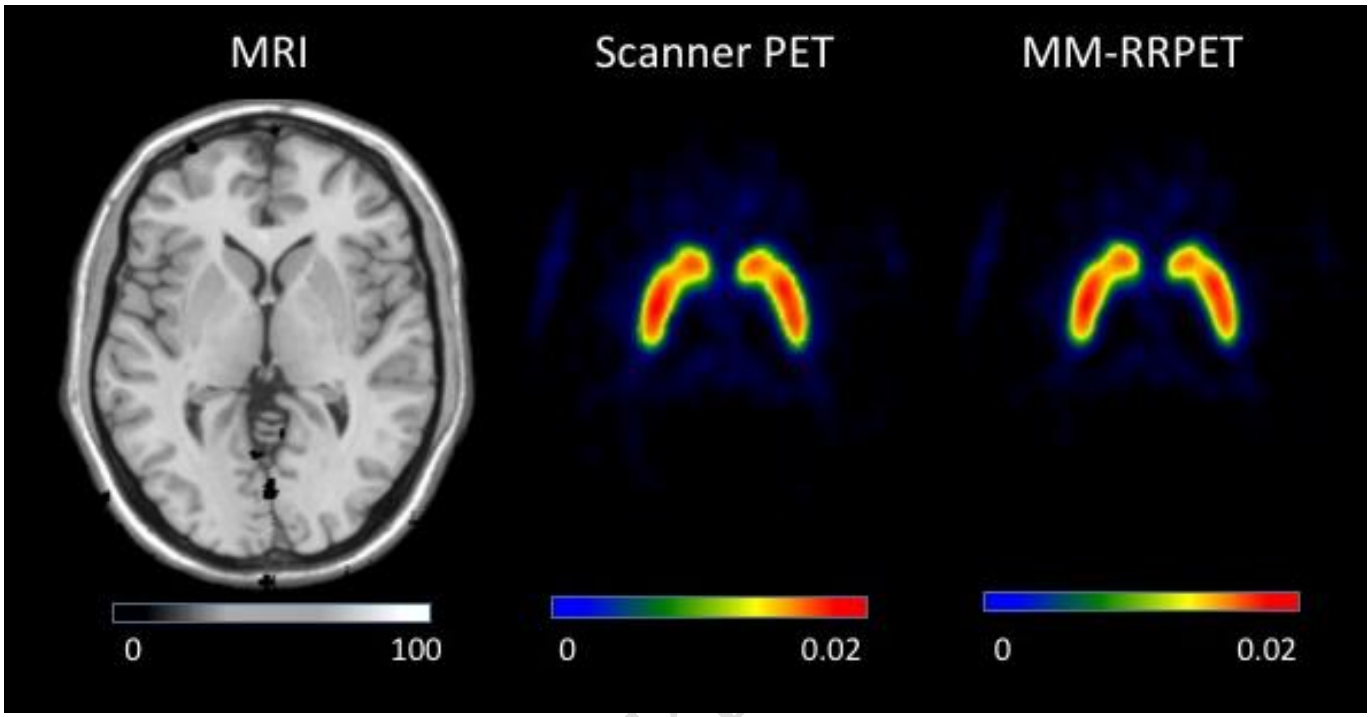


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**Figure 5 – Effect of MRI-PET misalignment on MM-RR correction.** PET colour bar indicates DVR estimates (unitless).

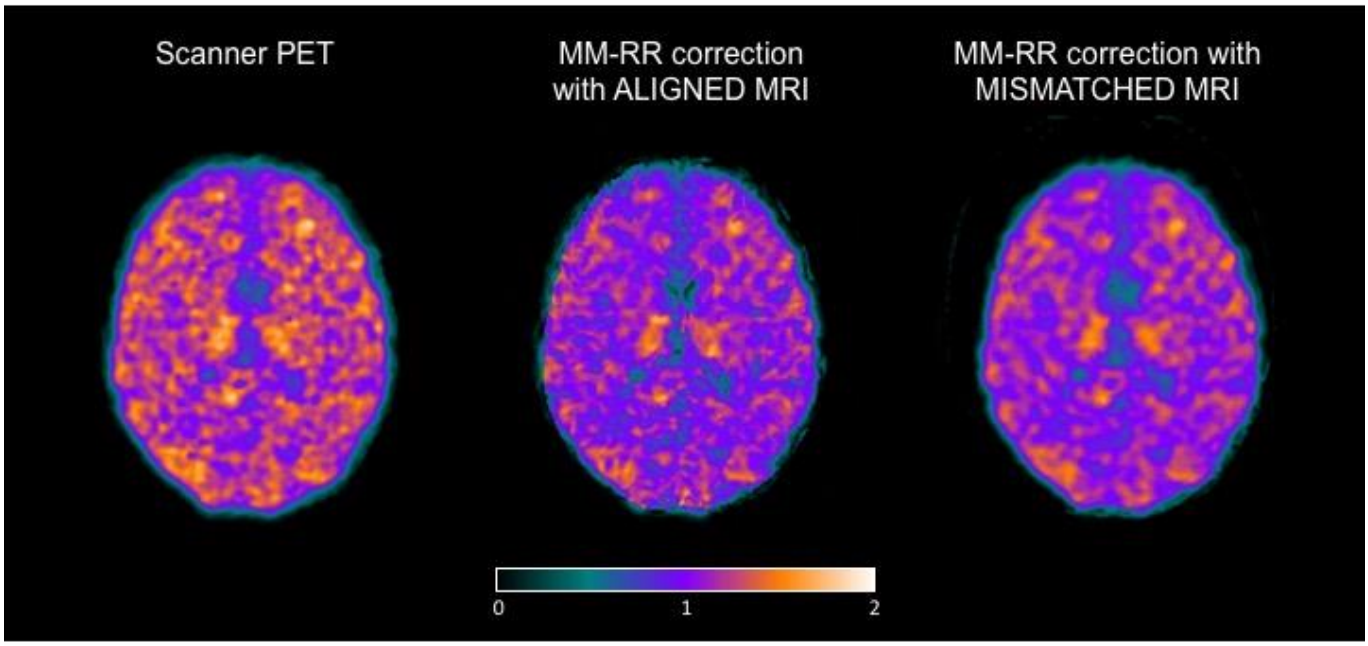


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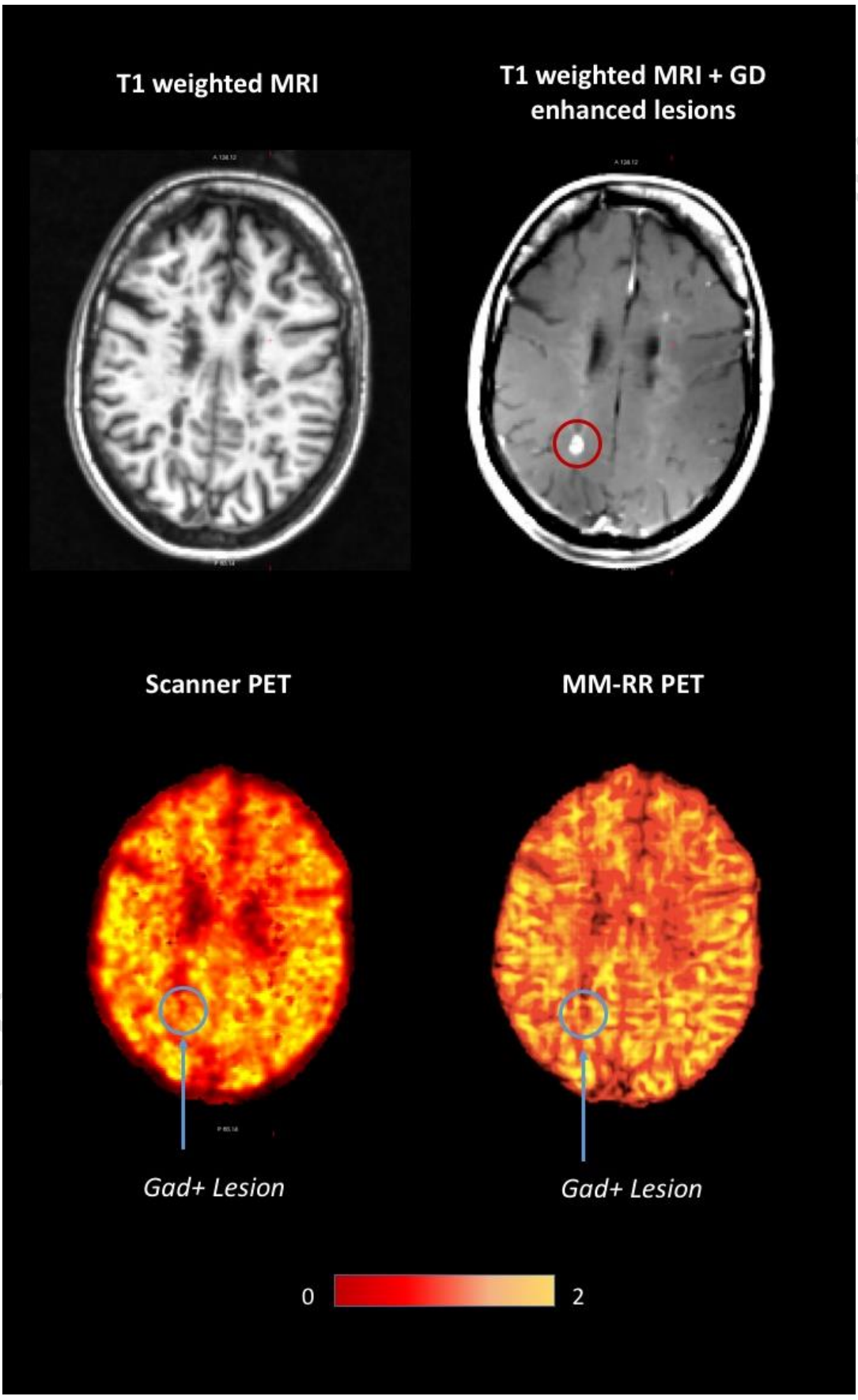
**Figure 6– Example of Gadolinium enhanced lesion for a representative MS Patient. Upper panels show T1 images with Gd+ lesions highlighted in red circles, Lower panels report the Scanner and MM-RR.PET with Gd+ highlighted in white circles.**



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