The figure in the left side shows a direct volume rendered manually segmented brain (T1-weighted MRI), a manually segmented tumor (light green), and the vessel centerlines used for non-rigid registration. The preoperative vessel centerlines are presented in yellow and the intra-operative (rigidly aligned) in red, with the vessel correspondences represented by the cyan lines.

The figure in the right side shows a direct volume rendered brain (brain shift compensated with our methods), the deformed tumor (light blue), and the intraoperative vessel centerlines (red).