RIDER NEURO MRI

Summary

> **Redirection Notice**
>
> This page will redirect to https://www.cancerimagingarchive.net/collection/rider-neuro-mri/ in about 5 seconds.

RIDER Neuro MRI contains imaging data on 19 patients with recurrent glioblastoma who underwent repeat imaging sets. These images were obtained approximately 2 days apart (with the exception of one patient, RIDER Neuro MRI-1086100996, whose images were obtained one day apart).

DCEMRI: All 19 patients had repeat dynamic contrastenhanced MRI (DCEMRI) datasets on the same 1.5T imaging magnet. On the basis of T2weighted images, technologists chose 16 image locations using 5mm thick contiguous slices for the imaging. For T1 mapping, multiflip 3D FLASH images were obtained using flip angles of 5, 10, 15, 20, 25 and 30 degrees, TR of 4.43 ms, TE of 2.1 ms, 2 signal averages. Dynamic images were obtained during the intravenous injection of 0.1mmol/kg of Magnevist intravenous at 3ccs/second, started 24 seconds after the scan had begun. The dynamic images were acquired using a 3D FLASH technique, using a flip angle of 25 degrees, TR of 3.8 ms, TE of 1.8 ms using a 1 x1 x 5mm voxel size. The 16 slice imaging set was obtained every 4.8 sec.

DTI: Seventeen of the 19 patients also obtained repeat diffusion tensor imaging (DTI) sets. Whole brain DTI were obtained using TR 6000ms, TE 100 ms, 90 degree flip angle, 4 signal averages, matrix 128 x 128, 1.72 x 1.72 x 5 mm voxel size, 12 tensor directions, iPAT 2, b value of 1000 sec/mm2 .

Contrastenhanced 3D FLASH: All 19 patients underwent whole brain 3D FLASH imaging in the sagittal plane after the administration of Magnevist. For this sequence, TR was 8.6 ms, TE 4.1 ms, 20 degree flip angle, 1 signal average, matrix 256 x 256; 1mm isotropic voxel size.

Contrastenhanced 3D FLAIR: All 17 patients who had repeat DTI sets also had 3D FLAIR sequences in the sagittal plane after the administration of Magnevist. For this sequence, the TR was 6000 ms, TE 353 ms, and TI 2200ms; 180 degree flip angle, 1 signal average, matrix 256 x 216; 1 mm isotropic voxel size. Note: before transmission to NCIA, all image sets with 1mm isotropic voxel size were "defaced" using MIPAV software or manually.

About the RIDER project

The Reference Image Database to Evaluate Therapy Response (RIDER) is a targeted data collection used to generate an initial consensus on how to harmonize data collection and analysis for quantitative imaging methods applied to measure the response to drug or radiation therapy. The National Cancer Institute (NCI) has exercised a series of contracts with specific academic sites for collection of repeat "coffee break," longitudinal phantom, and patient data for a range of imaging modalities (currently computed tomography [CT] positron emission tomography [PET] CT, dynamic contrast-enhanced magnetic resonance imaging [DCE MRI], diffusion-weighted [DW] MRI) and organ sites (currently lung, breast, and neuro). The methods for data collection, analysis, and results are described in the new Combined RIDER White Paper Report (Sept 2008):

- RIDER White Paper: Combined contracts report (Sept 2008) PDF

The long term goal is to provide a resource to permit harmonized methods for data collection and analysis across different commercial imaging platforms to support multi-site clinical trials, using imaging as a biomarker for therapy response. Thus, the database should permit an objective comparison of methods for data collection and analysis as a national and international resource as described in the first RIDER white paper report (2006):

- **RIDER White Paper: Executive Summary PDF**
- **RIDER White Paper: Editorial in Nature.com**

Data Access

Data Access

Some data in this collection contains images that could potentially be used to reconstruct a human face. To safeguard the privacy of participants, users must sign and submit a TCIA Restricted License Agreement to help@cancerimagingarchive.net before accessing the data.

Data Type	Download all or Query/Filter	License
Images (DICOM, 7.3GB)	*Download Search* (Download requires NBIA Data Retriever)	TCIA Restricted
DICOM Metadata Digest (CSV, 65 kB)	*Download*	CC BY 3.0

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Detailed Description

Detailed Description

Collection Statistics	
Modalities	MR
Number of Patients	19
Number of Studies	108
Number of Series	368
Number of Images	70,220
Image Size (GB)	7.3

Pages 19-22 (Appendix 2) of the RIDER White Paper: Combined contracts report (Sept 2008) PDF cover this data set in great detail.

Citations & Data Usage Policy

Citations & Data Usage Policy

Users must abide by the TCIA Data Usage Policy and Restrictions. Attribution should include references to the following citations:

> ⓘ **Data Citation**
>
> Barboriak, D. (2015). **Data From RIDER NEURO MRI**. The Cancer Imaging Archive. https://doi.org/10.7937/K9/TCIA.2015.VOSN3HN1

> **ⓘ TCIA Citation**
>
> Clark, K., Vendt, B., Smith, K., Freymann, J., Kirby, J., Koppel, P., Moore, S., Phillips, S., Maffitt, D., Pringle, M., Tarbox, L., & Prior, F. (2013). **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository.** In Journal of Digital Imaging (Vol. 26, Issue 6, pp. 1045–1057). Springer Science and Business Media LLC. https://doi.org/10.1007/s10278-013-9622-7 PMCID: PMC3824915

Other Publications Using This Data

TCIA maintains a list of publications which leverage our data. If you have a publication you'd like to add please contact TCIA's Helpdesk.
Versions
Version 1 (Current): Updated 2011/11/08

Data Type	Download all or Query/Filter
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DICOM Metadata Digest (CSV)	*Download*