Head-Neck Cetuximab

Summary

This collection combines advanced molecular imaging treatment response assessment through pre- and post-treatment FDG PET/CT scans with therapy of advanced head and neck cancer, including chemo-radiation therapy with and without addition of an EGFR inhibitor molecular targeted agent (Cetuximab).

The Head-Neck Cetuximab collection consists of a subset of image data from RTOG 0522/ACRIN 4500, which was randomized phase III Trial of Radiation Therapy and Chemotherapy for stage III and IV Head and Neck carcinomas. The RTOG 0522/ACRIN 4500 protocols were activated in November 2005 and successfully completed accrual of 945 patients in 2009. As part of the RTOG 0522 trial, institutions had the option to join the RTOG 0522/ACRIN 4500 imaging study. The post-treatment FDG PET/CT scan was performed 8-9 weeks after completion of treatment before any nodal dissection. For this reason the data was provided through two independent channels:

- RTOG 0522: CT, Structures, RT Doses, RT Plans sent to ITC
- ACRIN 4500: Quantitative PET (PET/CT) sent to ACRIN

For more information about the original aims of this trial please see this oral abstract: J Clin Oncol 29: 2011 (suppl; abstr 5500) here: https://meetinglibrary.asco.org/record/63118/video .

Data Access

Data Access

Click the **Download** button to save a ".tcia" manifest file to your computer, which you must open with the NBIA Data Retriever. Click the **Search** button to open our Data Portal, where you can browse the data collection and/or download a subset of its contents.

Data Type	Download all or Query /Filter
Images and Radiation Therapy Structures (48.8GB)	Download Search
DICOM Metadata Digest (CSV)	Download

Click the Versions tab for more info about data releases.

Detailed Description

Detailed Description

Collection Statistics	
Modalities	PT, CT, RTSTRUCT, RTDOSE, RTPLAN
Number of Patients	111
Number of Studies	368

Number of Series	1,682
Number of Images	202,574
Image Size (GB)	48.8

Supporting Documentation and metadata

Please note that 10 cases in this collection do not contain RT data. Eight cases whose RT QA scores that were not "Per Protocol" or "Variation Acceptable" were excluded: 96, 133, 141, 143, 154, 182, 475, 478. Also, subject 243 was ineligible and subject 260 expired prior to follow-up.

Citations & Data Usage Policy

Citations & Data Usage Policy

Please be sure to include the following citations in your work if you use this data set:

Data Citation

Bosch, Walter R., Straube, William L., Matthews, John W., & Purdy, James A. (2015). Data From Head-Neck_Cetuximab. The Cancer Imaging Archive. http://doi.org/10.7937/K9/TCIA.2015.7AKGJUPZ

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. **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, Journal of Digital Imaging, Volume 26, Number 6, December, 2013, pp 1045-1057. (paper)

Other Publications Using This Data

TCIA maintains a list of publications related to these datasets.

1. AlZu'bi, Shadi et al. "Transferable Hmm Probability Matrices in Multi Orientation Geometric Medical Volumes Segmentation." Concurrency and Computation: Practice and Experience, 2019, p. e5214, doi:10.1002/cpe.5214.
2. Edwards, Samuel et al. "Automated 3-D Tissue Segmentation Via Clustering." Journal of Biomedical Engineering and Medical Imaging, vol. 5, no. 2, 2018, p. 08, doi: 10.14738/jbemi.52.4204.

3. Gruselius, H. (2018). **Generative models and feature extraction on patient images and structure data in radiation therapy**. Retrieved from http://kth.diva-portal.org/smash/record.jsf?pid=diva2%3A1215620&dswid=2429
4. Ryalat MH, Laycock S, Fisher M, editors. **Automatic Removal of Mechanical Fixations from CT Imagery with Particle Swarm Optimisation**. International Conference on Bioinformatics and Biomedical Engineering; 2017: Springer. DOI: 10.1007/978-3-319-56148-6_37
5. Sando, Yusuke et al. "Real-Time Interactive Holographic 3d Display with a 360 Degrees Horizontal Viewing Zone." Appl Opt, vol. 58, no. 34, 2019, pp. G1-G5, doi:10.1364/AO.58.0000G1.
6. Scarpelli, M. et al. "Optimal Transformations Leading to Normal Distributions of Positron Emission Tomography Standardized Uptake Values." Phys Med Biol, vol. 63, no. 3, 2018, p. 035021, doi:10.1088/1361-6560/aaa175
7. Sinha, A. et al. "The Deformable Most-Likely-Point Paradigm." Med Image Anal, vol. 55, 2019, pp. 148-164, doi:10.1016/j.media.2019.04.013.
8. Sinha, A. et al. "Recovering Physiological Changes in Nasal Anatomy with Confidence Estimates." First International Workshop on Uncertainty for Safe Utilization of Machine Learning in Medical Imaging, UNSURE 2019, edited by Hayit Greenspan et al., Springer, 2019. doi:10.1007/978-3-030-32689-0_12.
9. Tang, Hao et al. "Clinically Applicable Deep Learning Framework for Organs at Risk Delineation in Ct Images." Nature Machine Intelligence, vol. 1, no. 10, 2019, pp. 480-491, doi:10.1038/s42256-019-0099-z.
10. Teske, Hendrik et al. "Handling Images of Patient Postures in Arms up and Arms Down Position Using a Biomechanical Skeleton Model." Current Directions in Biomedical Engineering, vol. 3, no. 2, 2017, pp. 469-472, doi:10.1515/cdbme-2017-0099.
11. Wong, Jordan et al. "Comparing Deep Learning-Based Auto-Segmentation of Organs at Risk and Clinical Target Volumes to Expert Inter-Observer Variability in Radiotherapy Planning." Radiother Oncol, vol. 144, 2019, pp. 152-158, doi:10.1016/j.radonc.2019.10.019.
12. Zhu, Wentao. "Deep Learning for Automated Medical Image Analysis." Computer Science, vol. Ph.D, University of California, Irvine, 15 March 2019 2019. general editor, Xiaohui Xie et al., https://arxiv.org/pdf/1903.04711.pdfhttps://arxiv.org/pdf/1903.04711.pdf.
13. Zhu, Wentao et al. "Anatomynet: Deep Learning for Fast and Fully Automated WholeVolume Segmentation of Head and Neck Anatomy." Medical Physics, vol. 46, no. 2, 2018, pp. 576-589, doi:https://doi.org/10.1002/mp.13300

If you have a publication you'd like to add please contact the TCIA Helpdesk.

Versions

Version 1 (Current): Updated 2013/11/14

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DICOM Metadata Digest (CSV)	Download