Head-Neck Cetuximab

Summary

Redirection Notice

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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, which was randomized phase III Trial of Radiation Therapy and Chemotherapy for stage III and IV Head and Neck carcinomas. The RTOG 0522 protocols were activated in November 2005 and successfully completed accrual of 945 patients in 2009. As part of the RTOG 0522 trial, CT, Structures, RT Doses, RT Plans were collected by RTOG, and institutions had the option to join a related quantitative PET (PET/CT) imaging study with ACRIN. The post-treatment FDG PET/CT scan was performed 8-9 weeks after completion of treatment before any nodal dissection.

For more information about the original aims of this trial please see https://clinicaltrials.gov/ct2/show/results/NCT00265941?term=rtog0522 and this PDF.

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 and Radiation Therapy Structures (48.8GB)	*Download* *Search* (Download requires the NBIA Data Retriever)	TCIA Restricted
DICOM Metadata Digest (CSV, 277 kB)	*Download*	CC BY 3.0

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Detailed Description

Detailed Description

Collection Statistics	
Modalities	PT, CT, RTSTRUCT, RTDOSE, RTPLAN
Number of Participants	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

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

Data Citation

Bosch, W. R., Straube, W. L., Matthews, J. W., & Purdy, J. A. (2015). **Head-Neck Cetuximab [Data set].** The Cancer Imaging Archive. https://doi.org/10.7937/K9/TCIA.2015.7AKGJUPZ

Publication Citation

Ang, K. K., Zhang, Q., Rosenthal, D. I., Nguyen-Tan, P. F., Sherman, E. J., Weber, R. S., Galvin, J. M., Bonner, J. A., Harris, J., El-Naggar, A. K., Gillison, M. L., Jordan, R. C., Konski, A. A., Thorstad, W. L., Trotti, A., Beitler, J. J., Garden, A. S., Spanos, W. J., Yom, S. S., & Axelrod, R. S. (2014). **Randomized Phase III Trial of Concurrent Accelerated Radiation Plus Cisplatin With or Without Cetuximab for Stage III to IV Head and Neck Carcinoma: RTOG 0522**. In Journal of Clinical Oncology (Vol. 32, Issue 27, pp. 2940–2950). American Society of Clinical Oncology (ASCO). https://doi.org/10.1200/jco.2013.53.5633

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 manuscript you'd like to add please contact TCIA's Helpdesk.

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.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

Versions

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

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