

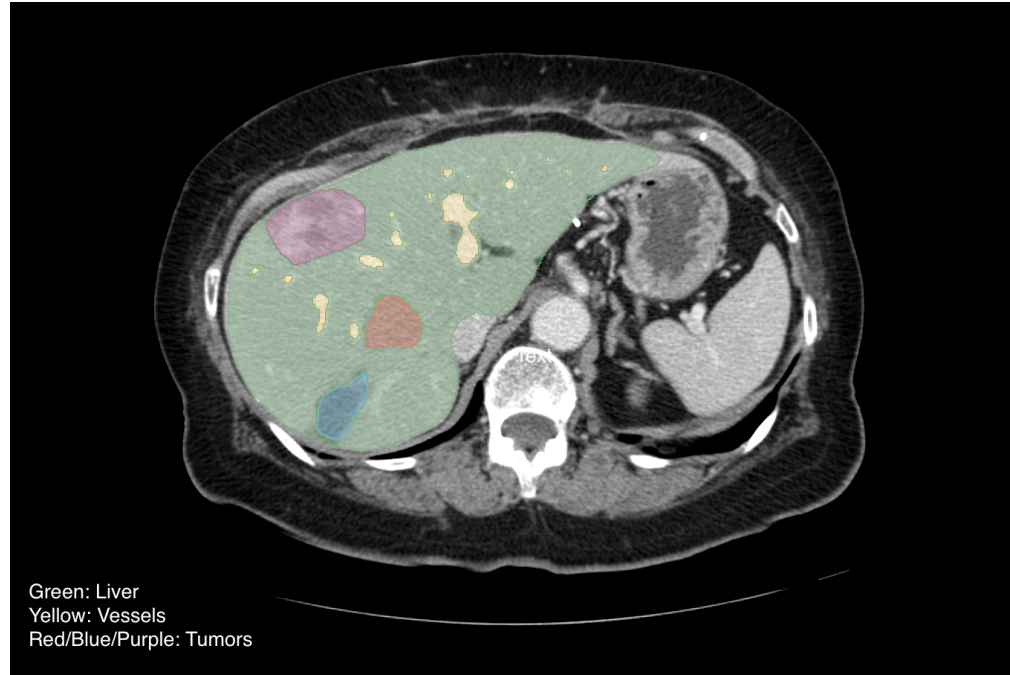
Preoperative CT and Survival Data for Patients Undergoing Resection of Colorectal Liver Metastases (Colorectal-Liver-Metastases)

Redirection Notice

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Summary

This collection consists of DICOM images and DICOM Segmentation Objects (DSOs) for 197 patients with Colorectal Liver Metastases (CRLM). The collection consists of a large, single-institution consecutive series of patients that underwent resection of CRLM and matched preoperative computed tomography (CT) scans for quantitative image analysis. Inclusion criteria were (a) pathologically confirmed resected CRLM, (b) available data from pathologic analysis of the underlying non-tumoral liver parenchyma and



hepatic tumor, (c) available preoperative conventional portal venous contrast-enhanced multi-detector computed tomography (MDCT) performed within 6 weeks of hepatic resection. Patients with 90-day mortality or that had less than 24 months of follow-up were excluded. Additionally, because pathologic and radiographic alterations of the non-tumoral liver parenchyma caused by hepatic artery infusion (HAI) of chemotherapy are not well described, any patient who received preoperative HAI was excluded. Finally, to obtain the most accurate future liver remnant (FLR), patients who underwent either local tumor ablation, more than 3 wedge resections, or had no visible tumor on preoperative imaging were excluded. The corresponding clinical dataset provides the variables collected including demographic, pathologic and survival data along with a data dictionary.

The CT images were extracted from PACS and de-identified via institutional approved and a HIPAA compliant method. The liver, tumors, and vessels were semi-automatically segmented and a 3D model was generated using Scout Liver (Pathfinder Technologies Inc., TN, USA). Post-operative imaging and/or the resection margin width from pathology analysis were used to determine the transection lines needed to generate the segmentation of the liver remnant after surgery. Our informatics team converted the native MHD segmentation files into DICOM-SEG format using the open-source [dcmqi](#) software. The segments in a given DICOM Segmentation Object (DSO) can be consistently identified using the Segment Label header, which follows the naming scheme described below. The SCT codes used to categorize the segments in the Segmented Property Type Code Sequence header may be updated in future releases to comply with best practices.

Dataset:

The dataset inside a subject folder is organized as follows:

- Comprised of Original DICOM CTs and Segmentations for each subject. The segmentations include "Liver", "Liver_Remnant" (liver that will remain after surgery based on a preoperative CT plan), "Hepatic" and "Portal" veins, and "Tumor_x", where "x" denotes the various tumor occurrences in the case

The DSOs are verified for all cases. Case "CRLM-CT-1074" was scanned with the subject in a prone (laying on stomach) position, so the images are in a different orientation than usual.

Acknowledgements

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Data Access

Data Access

Data Type	Download all or Query/Filter	License
Images, Segmentations (DICOM, 10 GB)	Download Search (Download requires the NBIA Data Retriever)	CC BY 4.0
Clinical data (CSV, 135 kB)	Download	CC BY 4.0

Click the Versions tab for more info about data releases.

Additional Resources for this Dataset

The NCI Cancer Research Data Commons (CRDC) provides access to additional data and a cloud-based data science infrastructure that connects data sets with analytics tools to allow users to share, integrate, analyze, and visualize cancer research data.

- [Imaging Data Commons \(IDC\)](#) (Imaging Data)

Please contact help@cancerimagingarchive.net with any questions regarding usage.

Detailed Description

Detailed Description

Image Statistics	
Modalities	CT, SEG
Number of Patients	197
Number of Studies	197
Number of Series	394
Number of Images	17836
Images Size (GB)	10

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

Simpson, A. L., Peoples, J., Creasy, J. M., Fichtinger, G., Gangai, N., Lasso, A., Keshava Murthy, K. N., Shia, J., D'Angelica, M. I., & Do, R. K. G. (2023). Preoperative CT and Survival Data for Patients Undergoing Resection of Colorectal Liver Metastases (Colorectal-Liver-Metastases) (Version 2) [Data set]. The Cancer Imaging Archive. <https://doi.org/10.7937/QXK2-QG03>

Publication Citation

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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>

Other Publications Using This Data

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Versions

Version 2 (Current): Updated 2023/04/25

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Clinical Data (CSV)	Download	CC BY 4.0

Note: The clinical data was updated to provide an additional eight variables, in order to better match the description of the dataset in the original 2017 publication. The variables are: body_mass_index, node_positive_primary, synchronous_crlm, multiple_metastases, carcinoembryonic_antigen, max_tumor_size, bilobar_disease, preoperative_pve.

Version 1: Updated 2023/03/01

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