Annotations for Vincristine, Dactinomycin, and Doxorubicin With or Without Radiation Therapy or Observation Only in Treating Younger Patients Who Are Undergoing Surgery for Newly Diagnosed Stage I, II, or III Wilms' Tumor (AREN0532-Tumor-Annotations)

Summary

This dataset contains image annotations derived from the NCI Clinical Trial "Vincristine, Dactinomycin, and Doxorubicin With or Without Radiation Therapy or Observation Only in Treating Younger Patients Who Are Undergoing Surgery for Newly Diagnosed Stage I, Stage II, or Stage III Wilms' Tumor (AREN0532)". This dataset was generated as part of an NCI project to augment TCIA datasets with annotations that will improve their value for cancer researchers and AI developers.

Annotation Protocol

For each patient, every DICOM Study and DICOM Series was reviewed to identify and annotate the clinically relevant time points and sequences. In a typical patient the following annotation rules were followed:

1. The primary renal tumor(s) were annotated on post-contrast axial series. Normal renal parenchyma were excluded.
2. A maximum of 5 lesions were annotated per patient scan (timepoint); no more than 2 per organ. The same 5 lesions were annotated at each time point. RECIST 1.1 principles were generally be followed for lesion annotation, however, if <5 lesions measuring >1 cm were present, then smaller lesions were annotated, again up to 2 lesions per organ or 5 lesions per patient scan. Bone lesions were included if other lesions were not present.
3. Lesions were labeled separately.
4. Seed points were automatically generated but were reviewed by a radiologist.
5. To ensure a high standard of accuracy and data quality, each annotation was reviewed by a secondary reader.

At each time point:

1. A seed point (kernel) was created for each segmented structure. The seed points for each segmentation are provided in a separate DICOM RTSS file.
2. SNOMED-CT “Anatomic Region Sequence” and “Segmented Property Category Code Sequence” and codes were inserted for all segmented structures.
3. Imaging time point codes were inserted to help identify each annotation in the context of the clinical trial assessment protocol.
    a. “Clinical Trial Time Point ID” was used to encode time point type using one of the following strings as applicable: “pre-dose” or “post-chemotherapy”
    b. Content Item in “Acquisition Context Sequence” was added containing "Time Point Type" using Concept Code Sequence (0040,A168) selected from:
        i. (255235001, SCT, “Pre-dose”)
        ii. (262502001, SCT, "Post-chemotherapy")

We believe that these are the most clinically useful annotations for radiologists as well as for future researchers. The selected sequences inform whether there is residual or recurrent tumor and assess response to therapy.

Important supplementary information and sample code

1. A spreadsheet containing key details about the annotations is available in the **Data Access** section below.
2. A Jupyter notebook demonstrating how to use the NBIA Data Retriever Command-Line Interface application and the REST API (with authentication) to access these data can be found in the **Additional Resources** section below.

Data Access

Data Access

Data Type	Download all or Query/Filter	License
AREN0532 Annotations -- Segmentations, Seed Points, and Negative Findings Assessments (DICOM, 0.2 GB)	*Download* *Search* (Download requires NBIA Data Retriever)	CC BY 4.0
AREN0532 Annotation Metadata (CSV)	*Download*	CC BY 4.0

Additional Resources for this Dataset

- NCTN/NCORP Data Archive provides the Clinical Data files related to these subjects, and is also where you go to request access to the entire dataset
- Jupyter notebook demonstrating how to use the NBIA Data Retriever Command-Line Interface application and REST API (with authentication) to access these data
- Instructions for Visualizing these data in 3D Slicer

Collections Used in this Third Party Analyses

Below is a list of the Collections used in these analyses:

Source Data Type	Download	License
Original AREN0532 Images used to create Segmentations and Seed Points (DICOM, 56.4 GB)	*Download* (Download requires NBIA Data Retriever)	NCTN/NCORP Data Archive License (Without Collaborative Agreement)
Original AREN0532 Images used to create Negative Assessment reports (DICOM, 23.7 GB)	*Download* (Download requires NBIA Data Retriever)	NCTN/NCORP Data Archive License (Without Collaborative Agreement)

- Vincristine, Dactinomycin, and Doxorubicin With or Without Radiation Therapy or Observation Only in Treating Younger Patients Who Are Undergoing Surgery for Newly Diagnosed Stage I, Stage II, or Stage III Wilms' Tumor (AREN0532)

Detailed Description

Detailed Description

Image Statistics	
Modalities	RTSTRUCT
Number of Patients	543
Number of Studies	861
Number of Series	2531
Number of Images	2531
Images Size (GB)	0.2

Citations & Data Usage Policy

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

Data Citation

Rozenfeld, M., & Jordan, P. (2023). Annotations for Vincristine, Dactinomycin, and Doxorubicin With or Without Radiation Therapy or Observation Only in Treating Younger Patients Who Are Undergoing Surgery for Newly Diagnosed Stage I, II, or III Wilms' Tumor (AREN0532-Tumor-Annotations) [Data set]. The Cancer Imaging Archive. https://doi.org/10.7937/KJA4-1Z76

TCIA Citation

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Other Publications Using This Data

TCIA maintains a list of publications which leverage TCIA data. If you have a manuscript you'd like to add please contact the TCIA Helpdesk.

Versions

Version 1 (Current): Updated 2023/08/09

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