

Chemotherapy and Radiation Therapy in Treating Young Patients With Newly Diagnosed, Previously Untreated, High-Risk Medulloblastoma/PNET (ACNS0332)

Summary

Redirection Notice

This page will redirect to <https://www.cancerimagingarchive.net/collection/acns0332/> in about 5 seconds.

This collection contains data from the Children's Oncology Group (COG) Clinical Trial [NCT00392327](#), "Chemotherapy and Radiation Therapy in Treating Young Patients With Newly Diagnosed, Previously Untreated, High-Risk Medulloblastoma/PNET". The Study Chair was James M. Olson, M.D., Ph.D.

It was sponsored by NCI and performed by the Children's Oncology Group under study number ACNS0332. This randomized phase III trial studies different chemotherapy and radiation therapy regimens to compare how well they work in treating young patients with newly diagnosed, previously untreated, high-risk medulloblastoma. Select patient-level clinical data from this trial is available via the following link: <https://nctn-data-archive.nci.nih.gov/node/838>.



Trial Description

Children with histologically diagnosed high-risk medulloblastoma, supratentorial primitive neuro-ectodermal tumor of the CNS (CNS-PNET), and pineoblastoma (PBL) have had poor survival despite intensive treatment. The Children's Oncology Group (COG) study ACNS0332 was designed to test two approaches for treatment intensification for these patients: addition of carboplatin during irradiation and/or addition of isotretinoin to the adjuvant regimen. Carboplatin has demonstrated preclinical and clinical efficacy in these tumors and is well tolerated in children, whereas isotretinoin crosses the blood-brain barrier efficiently and is effective against preclinical models of medulloblastoma (MB). Molecular profiling later revealed tumor heterogeneity that was not detectable at protocol inception. Enrollment of patients with CNS-PNET/PBL was subsequently discontinued, and outcomes for this part of the study reported. Eighty-five participants with institutionally diagnosed CNS-PNETs/PBLs were enrolled. Of 60 patients with sufficient tissue, 31 had tumors that were non-pineal in location. Twenty-two patients (71%) of those 31 were diagnosed with tumor types not intended for trial inclusion, including 18 high-grade (HGGs), two atypical teratoid rhabdoid tumors, and 2 ependymomas. Outcomes across tumor types were strikingly different. Neither carboplatin, nor isotretinoin significantly altered outcomes for all patients. Survival for patients with HGG was similar to that of historic studies that avoid craniospinal irradiation and intensive chemotherapy. For patients with CNS-PNET/PBL, prognosis is considerably better than previously assumed when molecularly confirmed HGGs are removed. Identification of molecular HGGs may spare affected children from unhelpful intensive treatment. This trial highlights the challenges of a histology-based diagnosis for pediatric brain tumors and indicates that molecular profiling should become a standard component of initial diagnosis.

Pre-operative and post-operative MRI scans of the brain with and without contrast and spinal MRI with and without contrast were required. All scans underwent central review.

Trial Outcomes

Results of the trial have been reported in the following publication:

Hwang, E. I., Kool, M., Burger, P. C., Capper, D., Chavez, L., Brabetz, S., Williams-Hughes, C., Billups, C., Heier, L., Jaju, A., Michalski, J., Li, Y., Leary, S., Zhou, T., von Deimling, A., Jones, D. T. W., Fouladi, M., Pollack, I. F., Gajjar, A., ... Olson, J. M. (2018). Extensive Molecular and Clinical Heterogeneity in Patients With Histologically Diagnosed CNS-PNET Treated as a Single Entity: A Report From the Children's Oncology Group Randomized ACNS0332 Trial. *Journal of Clinical Oncology*, 36(34), 3388–3395. <https://doi.org/10.1200/jco.2017.76.4720>. Epub ahead of print. PMID: 30332335.

Data Access

Data Access

This is a **limited access** data set. To request access please register an account on the [NCTN Data Archive](#). After logging in, use the "Request Data" link in the left side menu. Follow the on screen instructions, and enter **NCT00392327** when asked which trial you want to request. In step 2 of the Create Request form, be sure to select "Imaging Data Requested". Please contact NCINCTNDataArchive@mail.nih.gov for any questions about access requests.

Data Type	Download all or Query /Filter	License
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Additional Resources for this Dataset

The National Cancer Institute (NCI) has created a centralized, controlled-access database, called the [NCTN/NCORP Data Archive](#), for storing and sharing datasets generated from clinical trials of the National Clinical Trials Network (NCTN) and the NCI Community Oncology Research Program (NCORP). Clinical data from the participants in this trial can be found at:

- [NCTN/NCORP Data Archive](#) (Clinical Data)

Third Party Analyses of this Dataset

TCIA encourages the community to [publish your analyses of our datasets](#). Below is a list of such third party analyses published using this Collection:

- [Annotations for Chemotherapy and Radiation Therapy in Treating Young Patients With Newly Diagnosed, Previously Untreated, High-Risk Medulloblastoma/PNET \(ACNS0332-Tumor-Annotations\)](#)

Detailed Description

Detailed Description

Image Statistics	
Modalities	MR,CT

Number of Patients	85
Number of Studies	688
Number of Series	8617
Number of Images	376003
Images Size (GB)	93

De-identification of DICOM dates

De-identification of dates for this dataset uses the DICOM Part 3.15 Annex E standard “Retain Longitudinal With Modified Dates Option” which allows dates to be retained as long as they are modified from the original date. TCIA implements this using a technique which de-identifies the dates while preserving the longitudinal relationship between them. Original dates will be first normalized to 01 January, 1960 and then offset relative to the date of registration for each patient. This normalized date system was chosen in order to make it obvious that the dates are not real, and to make it easy to quickly determine how much time has passed between the date of registration and the patients' related imaging studies.

For example, if the real date of a patient's registration was 03/27/2018 and the original imaging Study Date was 03/29/2018 then the "Days from registration" would be +2 and the anonymized TCIA Study Date would become 01/03/1960.

Insertion of computed "REGISTRATION"/Days offset from registration" value

In addition to modifying the actual date fields in the DICOM header, the "days from registration" values are calculated and stored in the DICOM tag **(0012,0052) Longitudinal Temporal Offset from Event** with the associated tag **(0012,0053) Longitudinal Temporal Event Type** set to "REGISTRATION".

Note: If these DICOM tags are not present, DICOM tag **(0012,0050) Clinical Trial Time Point ID** with the associated tag **(0012,0051) Clinical Trial Time Point Description** provides this same information. This inconsistency is due to a change in how dates were handled in the first NCTN trials that were published on TCIA.

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

Hwang, E. I., Kool, M., Burger, P. C., Capper, D., Chavez, L., Brabetz, S., Williams-Hughes, C., Billups, C., Heier, L., Jaju, A., Michalski, J., Li, Y., Leary, S., Zhou, T., von Deimling, A., Jones, D. T. W., Fouladi, M., Pollack, I. F., Gajjar, A., ... Olson, J. M. (2021). **Chemotherapy and Radiation Therapy in Treating Young Patients With Newly Diagnosed, Previously Untreated, High-Risk Medulloblastoma/PNET (ACNS0332) [Data set]**. The Cancer Imaging Archive. <https://doi.org/10.7937/TCIA.582B-XZ89>

Publication Citation

Hwang, E. I., Kool, M., Burger, P. C., Capper, D., Chavez, L., Brabetz, S., Williams-Hughes, C., Billups, C., Heier, L., Jaju, A., Michalski, J., Li, Y., Leary, S., Zhou, T., von Deimling, A., Jones, D. T. W., Fouladi, M., Pollack, I. F., Gajjar, A., ... Olson, J. M. (2018). **Extensive Molecular and Clinical Heterogeneity in Patients With Histologically Diagnosed CNS-PNET Treated as a Single Entity: A Report From the Children's Oncology Group Randomized ACNS0332 Trial**. *Journal of Clinical Oncology*, 36(34), 3388–3395. <https://doi.org/10.1200/jco.2017.76.4720>. Epub ahead of print. PMID: 30332335.

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**. *Journal of Digital Imaging*, 26(6), 1045–1057. <https://doi.org/10.1007/s10278-013-9622-7>

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 2021/05/04

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