

Evidence Discussion (ONC 27.9)

Post-Transplant Lymphoproliferative Disorders

Initial staging

FDG PET/CT fusion (PET with attenuation CT) is valuable for initial staging as patients with PTLD often have extranodal and/or multi-site disease, which may be missed on body area specific diagnostic CTs. Patients with single sites of disease may be managed with local treatment alone, thus thorough assessment for systemic disease is essential to prevent under-treatment. Node bulk has prognostic value and is used for treatment stratification, and bulky masses vs noncontiguous nodes may be difficult to distinguish on PET/CT fusion studies alone. Evicore guidelines thus support the use of diagnostic quality, contrasted CTs when requested in addition to PET/CT fusion imaging (NCI PDQ 2024, Zelenetz 2024).

Restaging

Restaging with CT is supported every 2 cycles of chemotherapy as is standard for most disease processes (Zelenetz 2024). Median time to failure of reduction of immunosuppression as first line therapy, however, is only 45 days, so for patient safety our guidelines support earlier restaging in this scenario as soon as 4 weeks after reduction of immunosuppression (Reshef 2011). Changing therapy based on interim PET/CT alone is not supported and thus our guidelines support CT alone for interim restaging, with biopsy for concerning findings (Zelenetz 2024, Cheson 2014, Barrington 2014). Evicore guidelines do support PET/CT at end of planned treatment to ensure a complete metabolic response (Zelenetz 2024, Cheson 2014, Barrington 2014). Concurrent diagnostic CTs may be done in lieu of PET/CT if requested, but diagnostic CTs in addition to PET/CT fusion studies do not offer additional information in the setting of a complete metabolic response (Barrington 2014, Cheson 2014).

Surveillance

Advanced imaging surveillance is not supported for PTLD (Zelenetz 2024, Lynch 2014). Surveillance imaging has not been shown to improve outcomes for PTLD and it subjects patients to increased radiation, increased costs, and increased risk of invasive procedures for incidental findings (Lynch 2014). Surveillance is predominantly via EBV PCR (Zelenetz 2024).

References

1. National Cancer Institute PDQ® Cancer Treatment Summary, B-Cell Non-hodgkin Lymphoma Treatment –Health Professional Version. [B-Cell Non-Hodgkin Lymphoma Treatment \(PDQ®\) - NCI \(cancer.gov\)](#). Accessed April 26, 2024.
2. Zelenetz A, Gordon L, Abramson J, et al. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for B-Cell Lymphomas Version 1.2024 — January 18, 2024. All rights reserved. Accessed [March 12, 2024]. To view the most recent and complete version of the guideline, go online to NCCN.org.
3. Reshef R, Vardhanabhuti S, Luskin MR, Heitjan DF, Hadjiliadis D, Goral S, Krok KL, Goldberg LR, Porter DL, Stadtmauer EA, Tsai DE. Reduction of immunosuppression as initial therapy for posttransplantation lymphoproliferative disorder. *Am J Transplant*. 2011 Feb;11(2):336-47. doi: 10.1111/j.1600-6143.2010.03387.x. Epub 2011 Jan 10. PMID: 21219573; PMCID: PMC3079420.
4. Cheson BD, Fisher RI, Barrington SF, Cavalli F, Schwartz LH, Zucca E, Lister TA; Alliance, Australasian Leukaemia and Lymphoma Group; Eastern Cooperative Oncology Group; European Mantle Cell Lymphoma Consortium; Italian Lymphoma Foundation; European Organisation for Research; Treatment of Cancer/Dutch Hemato-Oncology Group; Grupo Español de Médula Ósea; German High-Grade Lymphoma Study Group; German Hodgkin's Study Group; Japanese Lymphoma Study Group; Lymphoma Study Association; NCIC Clinical Trials Group; Nordic Lymphoma Study Group; Southwest Oncology Group; United Kingdom National Cancer Research Institute. Recommendations for initial evaluation, staging, and response assessment of Hodgkin and non-Hodgkin lymphoma: the Lugano classification. *J Clin Oncol*. 2014 Sep 20;32(27):3059-68. doi: 10.1200/JCO.2013.54.8800. PMID: 25113753; PMCID: PMC4979083.
5. Barrington SF, Mikhaeel NG, Kostakoglu L, Meignan M, Hutchings M, Müller SP, Schwartz LH, Zucca E, Fisher RI, Trotman J, Hoekstra OS, Hicks RJ, O'Doherty MJ, Hustinx R, Biggi A, Cheson BD. Role of imaging in the staging and response assessment of lymphoma: consensus of the International Conference on Malignant Lymphomas Imaging Working Group. *J Clin Oncol*. 2014 Sep 20;32(27):3048-58. doi: 10.1200/JCO.2013.53.5229. Erratum in: *J Clin Oncol*. 2016 Jul 20;34(21):2562. PMID: 25113771; PMCID: PMC5015423.
6. Lynch RC, Zelenetz AD, Armitage JO, Carson KR. Surveillance imaging for lymphoma: pros and cons. *Am Soc Clin Oncol Educ Book*. 2014:e388-95. doi: 10.14694/EdBook_AM.2014.34.e388. PMID: 24857129.
7. ASCO. (2021). Choosing Wisely. Retrieved from <https://old-prod.asco.org/news-initiatives/current-initiatives/cancer-care-initiatives/value-cancer-care/choosing-wisely>