Abstract: P1121

Title: POSITRON EMISSION TOMOGRAPHY FOR FINAL RESPONSE ASSESSMENT TO RITUXIMAB-DOSE ADJUSTED EPOCH IN PRIMARY MEDIASTINAL LARGE B-CELL LYMPHOMA: WHO IS WORTHY TO BE IRRADIATED?

Abstract Type: Poster Presentation

Session Title: Aggressive Non-Hodgkin lymphoma - Clinical

Background:

EoT-PET is a valuable tool in the assessment of residual masses after first line treatment in PMLBCL and has been extensively evaluated after R-CHOP or R-MACOP-B. However, after R-da-EPOCH, the clinical significance of EoT-PET may not be the same, since most patients with positive scans achieve long-term disease control without radiotherapy (RT). The omission of RT in pts with Deauville 5-point scale score (D5PSS) 4 often causes anxiety to the treating physicians, while handling of patients with D5PSS-5 remains controversial [RT vs high dose chemotherapy and autologous stem cell transplantation (ASCT)]. Real-world data is required to shed light on the above issues.

Aims:

To provide an extensive real-world experience on EoT-PET imaging for response evaluation after R-da-EPOCH in PMLBCL in order to assess its clinical and prognostic significance and its effect on further treatment guidance.

Methods:

Among 145 pts with PMLBCL treated with R-da-EPOCH in 20 Hellenic Centers, 139 were evaluated with EoT-PET and 2 did not undergo EoT-PET but were considered as D5PSS-5, since they had progressive disease (PD) at the assumed time of EoT assessment. Cases with D5PSS-4 were retrospectively evaluated by a single nuclear medicine physician and scored visually according to the D5PSS. Freedom from Progression (FFP) was measured from the time of EoT-PET.

Results:

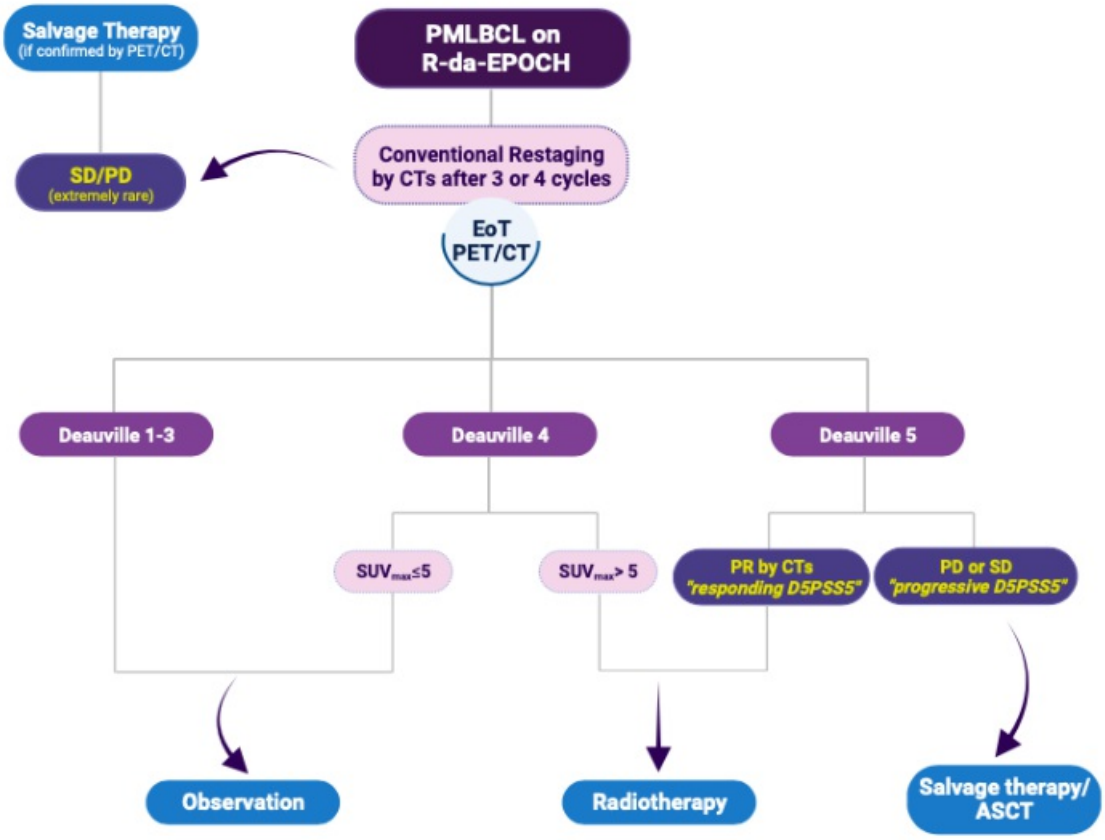
Among 141 (139+2) EoT-PET evaluable pts, 24 had D5PSS-1 (17%), 35 D5PSS-2 (25%), 42 D5PSS-3 (30%), 22 D5PSS-4 (16%) and 17 D5PSS-5 (12%) D5PSS-5; including the2 patients with frankly PD who did not undergo EoT-PET. A single patient (0.7%) had D5PSS-X (indeterminate) and was classified as negative. The 5-year FFP for pts with D5PSS-1,2,3,4, and 5 were 95.7%, 97.1%, 97.5%, 86.4% and 29.4% ($p<0.001$). *D5PSS-1-3:* Only 3/102 pts (3%) received RT and only 3/102 relapsed. Two relapses were associated with CNS involvement (unpreventable by mediastinal RT). One pt developed Hodgkin lymphoma and 3 t-AML. *D5PSS-4:* EoT-PET was available for central review in 20/22 pts. By visual interpretation, 7/20 (35%) were reclassified as D5PSS-3. Only 5/22 received RT and only 3/22 relapsed (5-year FFP 86.4%). The 5-year FFP for irradiated versus non-irradiated pts was 100% versus 82.4% ($p=0.33$). Following central review, 2/3 relapses were observed in pts with D5PSS-4 per central interpretation, while the last one was observed in a pt reclassified as D5PSS-3. FFP rates remained virtually unchanged. Only 3/15 revised D5PSS-4 pts had residual $SUV_{max}>5$; 2/3 did not receive RT and both relapsed compared to 0/12 of pts with $SUV_{max}\leq 5$. *D5PSS-5:* Among these 17 pts, 6 had responsive disease by conventional imaging staging and 11 had SD/PD: 5/6 with "responsive D5PSS-5" received RT and all converted to PET-negative and remain in continuous CR for a median of 26 months (range 23-44). All the 11 patients with SD/PD ("resistant D5PSS-5") were directly forwarded to salvage chemotherapy with the intention of ASCT. The 5-year OS was 83.3% vs 40.9% for patients with "responsive D5PSS-5" or "resistant D5PSS-5" ($p=0.13$).

Summary/Conclusion:

In this large real-life study of R-da-EPOCH, RT was safely omitted in the vast majority of D5PSS 1-4 pts with PMLBCL. The reproducibility of D5PSS-4 was moderate. RT was extremely successful, and can be restricted only to

the small minority of patients with "responding D5PSS-5"and "high uptake" D5PSS-4 (for example SUV_{max}>5), who roughly correspond to just 6% of patients who achieve a conventional response by CTs with R-da-EPOCH. A proposed algorithm is provided in the figure.

Proposed algorithm for treatment strategy of patients with PMLBCL treated with R-da-EPOCH



Keywords: B cell lymphoma, Lymphoma therapy, Radiotherapy, Non-Hodgkin's lymphoma