P1076 A RETROSPECTIVE ANALYSIS ON OLD AND EMERGING PROGNOSTIC FACTORS IN CLASSICAL HODGKIN’S LYMPHOMA IN THE PET-GUIDED ERA

**Topic:** 17. Hodgkin lymphoma - Clinical

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**Background:**

Hodgkin’s Lymphoma (HL) has been commonly recognized as a chemo-sensitive and potentially curable neoplastic disease. However, some patients are refractory or relapse after frontline therapy, and their prognosis is severely impacted by such events. Baseline prognostic factors that can reliably identify patients with high-risk disease are currently lacking, as classical prognostic factors have lost their meaning in the modern era, where a PET-guided approach and novel therapies are being incorporated in the treatment of HL. Such therapeutic options, however, need to be directed to the right subset of patients to avoid overtreatment, unwanted toxic effects, or financial burden.

In recent years lymphocyte to monocyte ratio (LMR) and neutrophil to lymphocyte ratio (NLR) have been evaluated as potential outcome predictors in patients affected by HL. These factors, however, need to be further evaluated to be included in prognostic scores that reliably predict outcomes in HL patients treated in the current era.

**Aims:**

This study’s aim was to identify potential predictors of worse overall survival (OS) and progression free survival (PFS) in patients affected by HL treated with a PET-adapted chemotherapeutic approach.

**Methods:**

We included HL patients diagnosed at the University Hospital of Padova between 2004 and 2020. All patients were treated with ABVD, were staged with PET-TC at baseline, and evaluated after 2 cycles (interim, iPET) and at the end of therapy. iPET positive patients (Deauville score 4-5) were intensified with escalated BEACOPP. The number of cycles and the addition of radiation therapy as mandated by stage and local policy. Low LMR was considered as ≤2.1 and high NLR as ≥6. Survival curves were compared with Log-rank test, Cox proportional hazards test was used for multivariate analysis. 95% Confidence intervals (CI) were also reported.

**Results:**

Of the 261 patients analyzed, 101 (39%) had early-stage and 160 (61%) had advanced-stage (IIB or higher) HL. Median age was 32 years, 127 (49%) of patients were male, 134 (51%) presented with B-symptoms and 91 (35%) had bulky disease.

After a median follow up of 59 months the 5-year OS and PFS for the whole population were 93.4% (CI 88.7–96.1) and 73.6% (CI 67.3–78.9), respectively. In univariate analysis stage ≥III, age ≥65 years, B symptoms, hemoglobin <105 g/L, low LMR, high NLR were associated with a shorter PFS (p<0.05), while stage ≥III, advanced age, low LMR and high NLR were associated with worse OS (p<0.05). In multivariate analysis, only stage ≥III significantly predicted worse PFS (HR 2.04; 1.13–3.69), while age ≥65 years (HR 5.38; 1.49–19.40) and high NLR (HR 4.14; 1.15–
14.87) were associated with decreased OS.

Focusing on the 160 advanced stage patients’ subgroup, stage ≥III and low LMR predicted a decreased PFS both in univariate and multivariate analysis with a HR of 2.14 (CI 1.30–4.08) and 2.14 (CI 1.10–4.31), respectively. Age ≥65 years and high NLR were associated with a worse OS both in univariate and multivariate analysis, with a HR of 7.48 (CI 2.14–26.17) and of 6.57 (CI 1.70–25.48), respectively.

**Summary/Conclusion:** In this study, we provide evidence that current practice, based on a PET-guided therapy intensification, is unsatisfactory, since the survival of stage III-IV is worse than the one reached by earlier stage patients. We confirmed the reliability prognostic efficacy of NLR and LMR. Whether advanced stage patients with low LNR and high NLR might benefit from a frontline brentuximab or nivolumab-based therapies is unknown, and deserve further investigation.