

**P — 067** Neutrophil-to-lymphocyte ratio as a predictive or prognostic factor for gastric cancer treated with nivolumab: A retrospective study

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**Introduction:** The ATTRACTION-2 study showed that nivolumab is an effective treatment for advanced gastric cancer (AGC). Many studies have examined the effectiveness of predictive factors, such as programmed death ligand-1, mismatch repaired deficiency, and mutation burden. Several studies have demonstrated that the neutrophil-to-lymphocyte ratio (NLR) is effective as a predictive or prognostic factor for lung cancer treated with nivolumab. The objective of this study was to determine the effectiveness of NLR for AGC treated with nivolumab monotherapy.

**Methods:** This study was a retrospective study in a single center and we collected data on patients with AGC treated with nivolumab from June 2017 to December 2017. The NLRs were calculated before the first cycle (NLR pre) and two weeks after the first cycle (NLR post) of nivolumab. The parameters were tested for their association with progression-free survival (PFS) and overall survival (OS).

**Results:** Twenty-two patients (pts) were enrolled, and the median age was 64 years. Fifteen pts were male, and seven pts were female. Regarding the Eastern Cooperative Oncology Group performance status, twenty pts had a score of 1 and two pts had scores of 2. The overall response rate was 13.6% (complete response, one pt; partial response, two pts), and the disease control rate was 40.9% (stable disease, six pts). With a median follow-up period of 140 days, the median PFS was 52 days (range, 11–265) and the median OS was not reached. The median NLR pre and NLR post were 2.42 (range, 1.00–17.4) and 2.84 (range, 1.27–12.3), respectively. Stratified with high NLR ( $\geq 5$ ) and low NLR ( $< 5$ ), the median PFS was shorter in the high NLR pre arm (57 days vs. 45 days;  $p = 0.161$ ) and significantly shorter in the high NLR post arm (67 days vs. 21 days;  $p = 0.015$ ). The median OS was also shorter in the high NLR pre arm (not reached vs. 175 days;  $p = 0.068$ ) and significantly shorter in the high NLR post arm (not reached vs. 111 days;  $p = 0.012$ ).

**Conclusion:** NLR, especially NLR post, might be effective as a predictive or prognostic factor in gastric cancer treated with nivolumab monotherapy. Further study is warranted to develop this finding to detect progression cases as early as possible.