

AB043. Lymphocyte-CRP ratio (LCR) as a possible biomarker for anastomotic leak in rectal cancer patients

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Background: Anastomotic leakage (AL) is one of the most serious complications of colorectal resection, causing sepsis and reducing overall survival. Several studies have investigated potential biomarkers to predict AL. To assess the predictive utility of lymphocyte-CRP ratio (LCR) as a biomarker for the development of AL in rectal cancer patients.

Methods: Data was retrospectively obtained from a prospectively maintained rectal cancer database in Galway University Hospital between 2009–2017. Demographic/surgical data was obtained via theatre-logs and patient charts. All ALs were radiologically proven. Haematological data was obtained from electronic records. Statistical analysis was performed using Statistical Package for the

Social Sciences (SPSS) with P value of <0.05 considered significant.

Results: A total of 288 (M/F 201/87; mean age 65.8±11.1yrs) patients underwent surgery for rectal cancer. Neoadjuvant chemoradiation therapy (Neo-CRT) was administered in all ≥ T3 disease ± nodal involvement (n=198, 68.8%). Haematological data has been collected on 42 patients currently. Of these, 14 (32.6%) experienced immediate post-operative complications, excluding anastomotic leak. Anastomotic leak occurred in 11 patients (3.82%). There was a significant difference in the LCR ratio on days 5 (P=0.004) and 6 (P=0.046) in patients who developed a leak. C-reactive protein (CRP) levels were significantly elevated in leak patients on day 6 (P=0.043). ROC curve analysis demonstrated area under curve (AUC) values of 0.585 and 0.613 for day 5 and 6 LCR, respectively. CRP on day 6 had an Area under the curve (AUC) value of 0.47.

Conclusions: Lymphocyte to CRP ratio could aid in identifying patients who have a high probability of colorectal AL. Larger datasets are needed to further evaluate the utility of this potentially important biomarker.

Keywords: Anastomotic leak; biomarker; lymphocyte-CRP ratio (LCR); rectal cancer

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