



Neutrophil to Lymphocyte Ratio ≥ 4 Correlates with 6-Month Postoperative Mortality in Cancer Patients Age >75 .

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Introduction

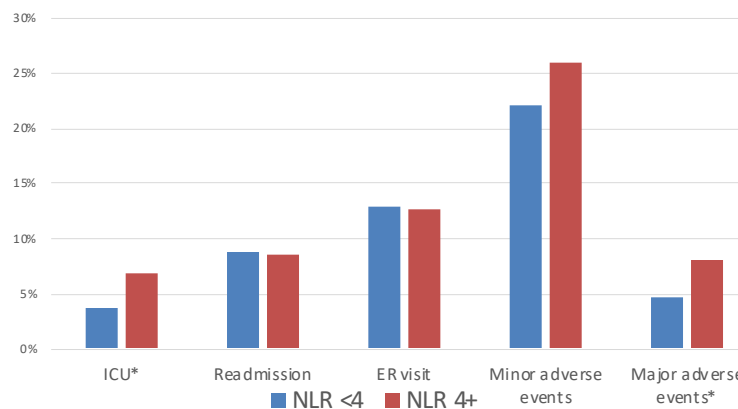
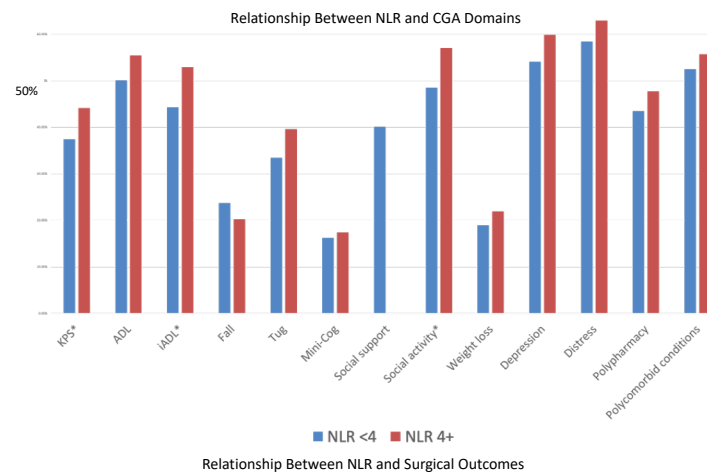
- Literature has suggested that there may be strong relationship between frailty and serological pro-inflammatory biomarkers such as neutrophil to lymphocyte ratio (NLR)
- The gold standard for assessing frailty is through Geriatric Assessment (GA)
- Those with impairments based on their GA are at higher risk for adverse surgical events
- In our study, we assess the relationship between NLR and Geriatric Assessment of older cancer patients during preoperative evaluation, and the association between NLR and short term adverse surgical events

Methods

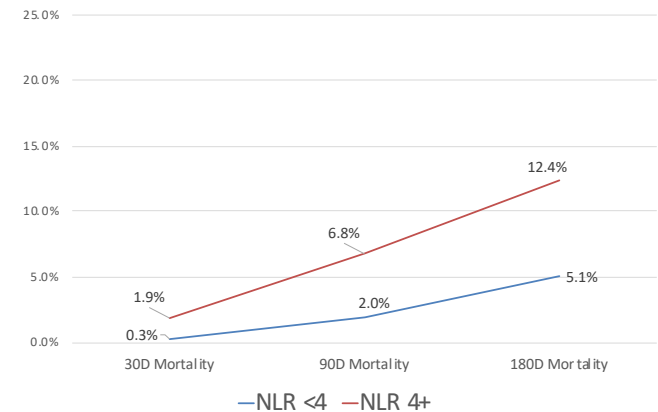
- Retrospective analysis on patients undergoing elective surgery between 2015-2018 with hospital length of stay (LOS) > 1 day and had > 6 month follow up
- Context: Geriatric preoperative evaluation
- Patients aged 75+
- Independent variable: NLR
- Dependent variables: 6-month mortality, Surgical outcomes, ER Visit, ICU Admissions
- Univariate analysis was used to determine correlation between GA domains and NLR
- Multivariable regression (MVR) analysis was used to assess the relationship of frailty and NLR with postoperative 6-month mortality

Results

- N=1290, median age 79, 48.8% male, in 1028 patients, preoperative NLR was available
- NLR: median:3, IQR 2.1- 4.4 , NLR < 4 : 705 (68.6%), NLR $4+$: 323 (31.4%)



Relationship Between NLR and 1 month, 3 month & 6 month mortality



Discussion

- Out of 1,290 patients we found approximately 31 % to have pre-operative NLR levels above 4
- Those with NLR levels greater than 4 were at a greater overall risk of 6-month mortality following surgical intervention for malignancies
- Patients with elevated NLR levels were more likely to have an overall lower Karnofsky Performance Score with up to 44 % in those with NLR levels greater than or equal to 4 versus 37.4% in those with lower levels (p=0.04).

Conclusion

- NLR levels could potentially provide valuable prognostic information for risk stratification for patients undergoing cancer related surgery



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