

Trajectories of neutrophil-to-lymphocyte ratios during neoadjuvant chemotherapy correlate with short- and long-term outcomes in gastric cancer: a group-based trajectory analysis

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INTRODUCTION & AIM

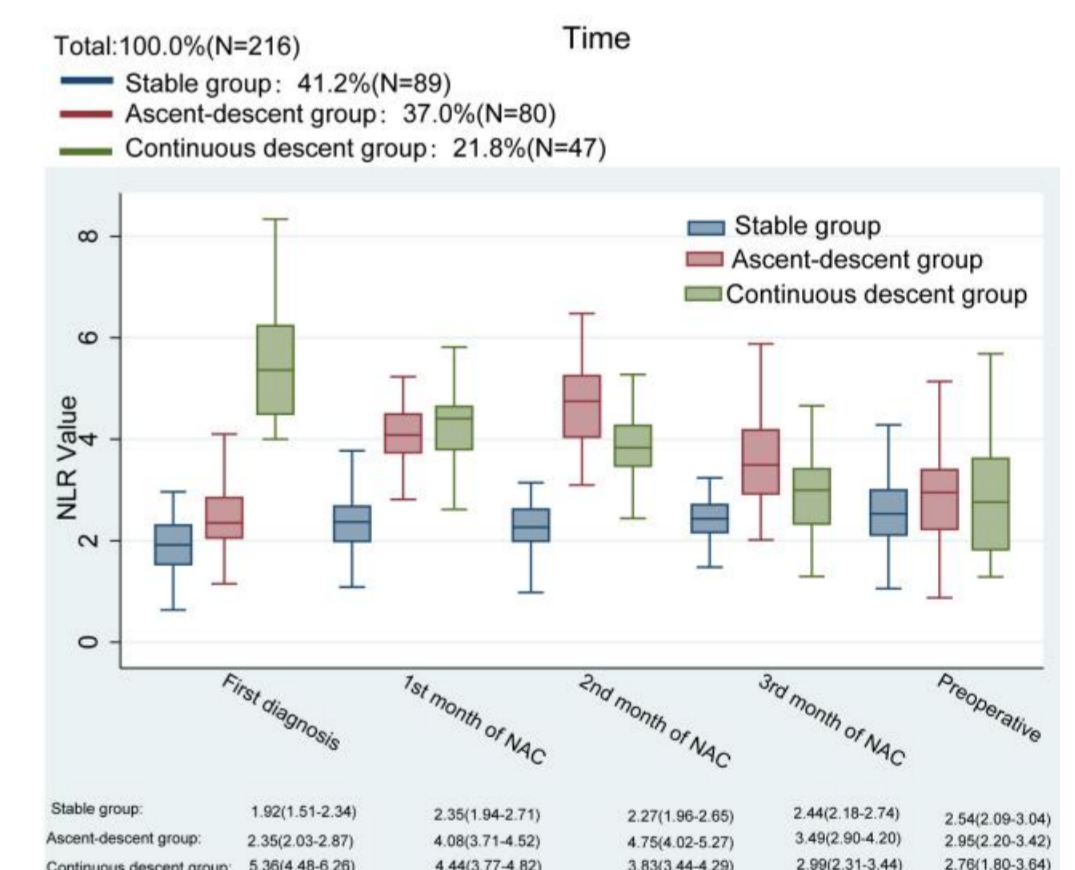
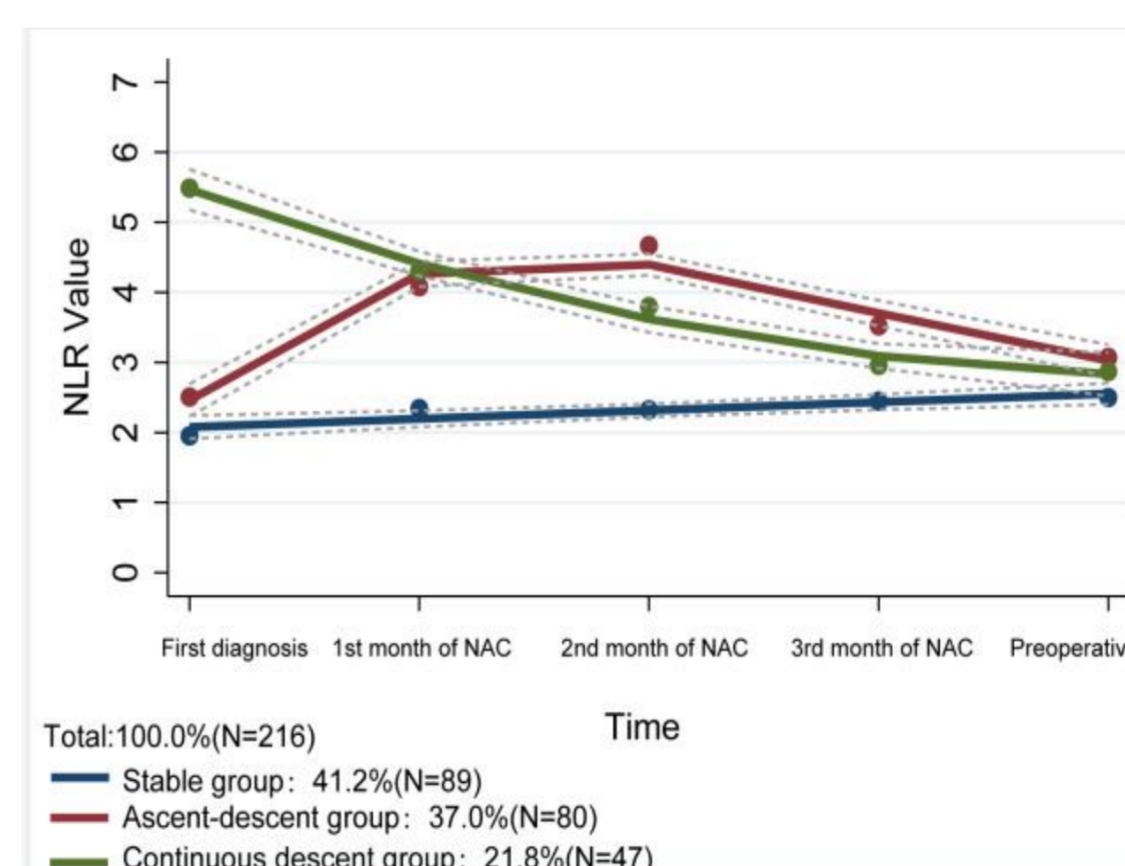
Systemic inflammatory factors can predict the survival prognosis of gastric cancer (GC) patients after neoadjuvant chemotherapy (NACT). However, whether longitudinal changes in systemic inflammatory factors are associated with short - and long-term outcomes has not been reported.

METHOD

This study is a retrospective analysis of 216 patients with advanced gastric cancer who received NACT between January 2011 and June 2019, comparing receiver operating characteristic (ROC) curves for screening suitable inflammatory markers. Group-based trajectory modeling (GBTM) was used to analyze longitudinal changes in inflammatory markers during NACT to identify different potential subgroups and to compare postoperative complications, recurrence-free survival (RFS), and overall survival (OS) among subgroups.

RESULTS & DISCUSSION

Ultimately, neutrophil-lymphocyte ratio (NLR) had the highest area under the curve (AUC) value in predicting prognosis was included in the GBTM analysis. Three trajectories of NLR were obtained: Stable group (SG) (n=89), Ascent-descend group (ADG) (n=80) and Continuous descend group (CDG) (n=47). Compared with SG, ADG and CDG are associated with an increased risk of postoperative recurrence and death. The median time of RFS and OS of SG was longer than that of ADG and CDG (median RFS 81 vs. 44 and 22 months; median OS 69 vs. 41 and 30 months). In addition, CDG had significantly higher postoperative serious complications than SG and ADG (17 (36.2%) vs. 17 (19.1%) and 12 (15.0%); p=0.005).



CONCLUSION

There were different trajectories of NLR during NACT, and these potential trajectories were significantly associated with severe postoperative complications, recurrence, and mortality in patients with GC.

FUTURE WORK / REFERENCES

the study population received NACT, no patients received radiotherapy or immune (targeted) therapy. Whether this conclusion can be generalized to this population remains to be further studied.