## LETTER TO THE EDITOR

# NLR as a prognostic marker in metastatic gallbladder cancer?

We recently read with great interest the article by Mady et al. titled 'Neutrophil to lymphocyte ratio as a prognostic marker in metastatic gallbladder cancer'.<sup>1</sup> In that article the authors aimed to evaluate the association between NLR and overall survival in patients with metastatic gallbladder cancer. The authors determined that NLR is an independent predictor of poor prognosis in patients with metastatic GBC. The availability of this parameter at no additional cost may encourage its utilization in clinical practice. While we found these results important and would like to thank the authors for their contribution, we would also like to direct the attention of readers to some methodological issues.

NLR is a globally available and inexpensive laboratory parameter, which is used to test systemic inflammation. NLR has been reported to be prognostic in several solid tumors including gastrointestinal malignancies. On the other hand, it was shown that chronic hepatitis B or C infection, renal failure, diabetes mellitus, valvular heart diseases, acute coronary syndromes, thyroid functional abnormalities, metabolic syndrome, essential hypertension, and many inflammatory diseases may also potentially affect NLR.<sup>2,3</sup> Thus, it would be more relevant if Mady et al. had mentioned these NLR-affecting factors while evaluating the relationship between NLR in in patients with metastatic gallbladder cancer. And also, medication may easily alter NLR, so it would have been useful if the patients were described in greater detail in terms of, anti-inflammatory drugs, antiviral agents, immunosuppressive drugs, and/or other medications. Finally, it would also have been better if the authors indicated the elapsed time between taking the blood samples and measuring NLR, since the waiting period prior to analysis may affect this laboratory parameters.2,3

We believe that the findings of Mady et al.<sup>1</sup> will lead to further research concerning the relationship between NLR and metastatic gallbladder cancer. However, it should be kept in mind that NLR itself alone may not secure true information about survival in patients with metastatic gallbladder cancer. Acknowledgements None.

### **Author contributions**

Concept - T.D., H.K.; Design - T.D., H.K.; Supervision - T.D., H.K.; Resource - T.D., H.K.; Materials - T.D., H.K.; Data Collection and/or Processing - T.D., H.K.; Analysis and/or Interpretation - T.D., H.K.; Literature Search - T.D., H.K.; Writing - T.D., H.K.; Critical Reviews – T.D., H.K.

### **Conflicts of interest**

The authors have no conflict of interest to declare.

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#### References

- Mady M, Prasai K, Tella SH, Yadav S, Hallemeier CL, Rakshit S et al. (2020 Feb 28) Neutrophil to lymphocyte ratio as a prognostic marker in metastatic gallbladder cancer. *HPB*. https://doi.org/10.1016/j.hpb.2020.02.002. pii: S1365-182X(20)30052-30056.
- Tanoğlu A, Düzenli T. (2019 Oct) Neutrophil-to-lymphocyte ratio alone may not be a true indicator of the severity of acute pancreatitis. *Turk J Gastroenterol* 30:937. https://doi.org/10.5152/tjg.2019. 18856.
- Karakonstantis S, Kalemaki D, Tzagkarakis E, Lydakis C. (2018 Mar) Pitfalls in studies of eosinopenia and neutrophil-to-lymphocyte count ratio. *Inf Disp* 50:163–174. https://doi.org/10.1080/23744235.2017. 1388537.