Prognostic role of immuno-nutritional indices in esophageal cancer patients undergoing Minimally Invasive Esophagectomy

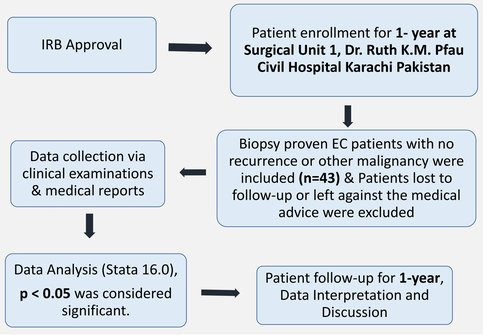
Sajida Qureshi*, Waqas Ahmad Abbasi, Sumayah Khan, Hira Abdul Jalil, M. Saeed Quraishy

*Correspondence: sajida.qureshi@duhs.edu.pk

Introduction

Esophageal carcinoma poses a significant global health challenge, frequently diagnosed at advanced stages with limited treatment options and high mortality rates. Previous reports have investigated the immune contexture of primary tumors as a crucial prognostic factor for both disease-free and overall survival. Moreover, the profound impact of malnutrition on cancer initiation and progression is now been increasingly acknowledged. The interaction underscores the need for a comprehensive approach to prognostic assessment. Our study aims to investigate the prognostic significance of various nutritional and hematological markers, including **MCV, RDW, MPV, CRP, Albumin, TLC, PNI, and CAR** and their correlation with the overall survival in patients undergoing MIE.

Methodology



Results

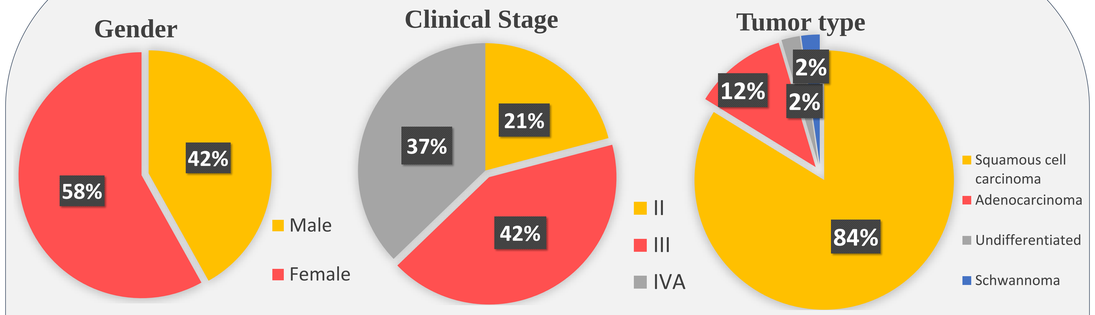


Table 2: Characteristics and survival with esophageal cancer (n=43)

Characteristics	Total	Alive	Death	
	Mean±SD	Mean±SD	Mean±SD	p-value
MCV	82.90±8.54	83.69±8.52	81.58±8.69	0.439
RCDW	47.18±10.89	45.96±10.90	49.23±10.89	0.347
MPV	10.00±1.21	9.99±1.06	10.01±1.48	0.961
CRP	25.39±49.61	32.41±60.95	13.54±14.66	0.232
Albumin	3.53±0.57	3.62±0.59	3.40±0.53	0.225
TLC	6.94±3.39	6.88±3.83	7.03±2.61	0.892
PNI	38.26±17.09	38.58±12.97	38.06±19.35	0.924
CRP/Albumin	8.04±16.40	10.21±20.15	4.39±5.11	0.782

*p-value calculated using Mann-Whitney test

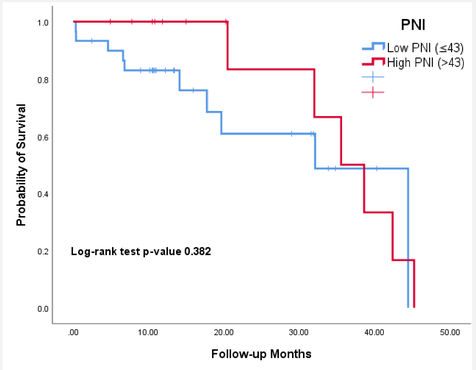


Figure 1: Survival analysis in relation to the PNI

Discussion

- High MCV predicts poor survival in advanced EC patients undergoing chemoradiotherapy **(Li, K. et al., 2020).** Similarly, high MCV also indicates poor outcomes in ESCC patients undergoing esophagectomy **(Yoshida et al., 2022)**
- According to a systematic review, RDW may not reliably indicate poor prognosis in EC patients **(Xu, Wei-Yu et al., 2018).**
- Reduced MPV is associated with worse survival outcomes in EC **(Shen et al., 2018),** and serves as an independent predictor of prognosis in locally advanced-stage ESCC **(Xiaoling et al., 2022),** though it was non-independent for OS in ESCC **(Yusuke et al., 2021).**
- C-reactive protein to albumin ratio (CAR) has shown prognostic significance for EC **(Ishibashi, Y. et al., 2020; Tamagawa et al., 2020)**
- A meta-analysis revealed a strong correlation between PNI and post-operative survival in EC. Patients with low PNI values tend to experience poorer overall survival and may face a higher risk of EC recurrence **(Hao et al., 2020).**

Conclusion

Our study did not establish significant correlations or prognostic value among the immuno-nutritional indices investigated. This discrepancy may stem from variations in study populations or sample sizes, highlighting the need for further extensive exploration to clarify the role of these markers in EC.