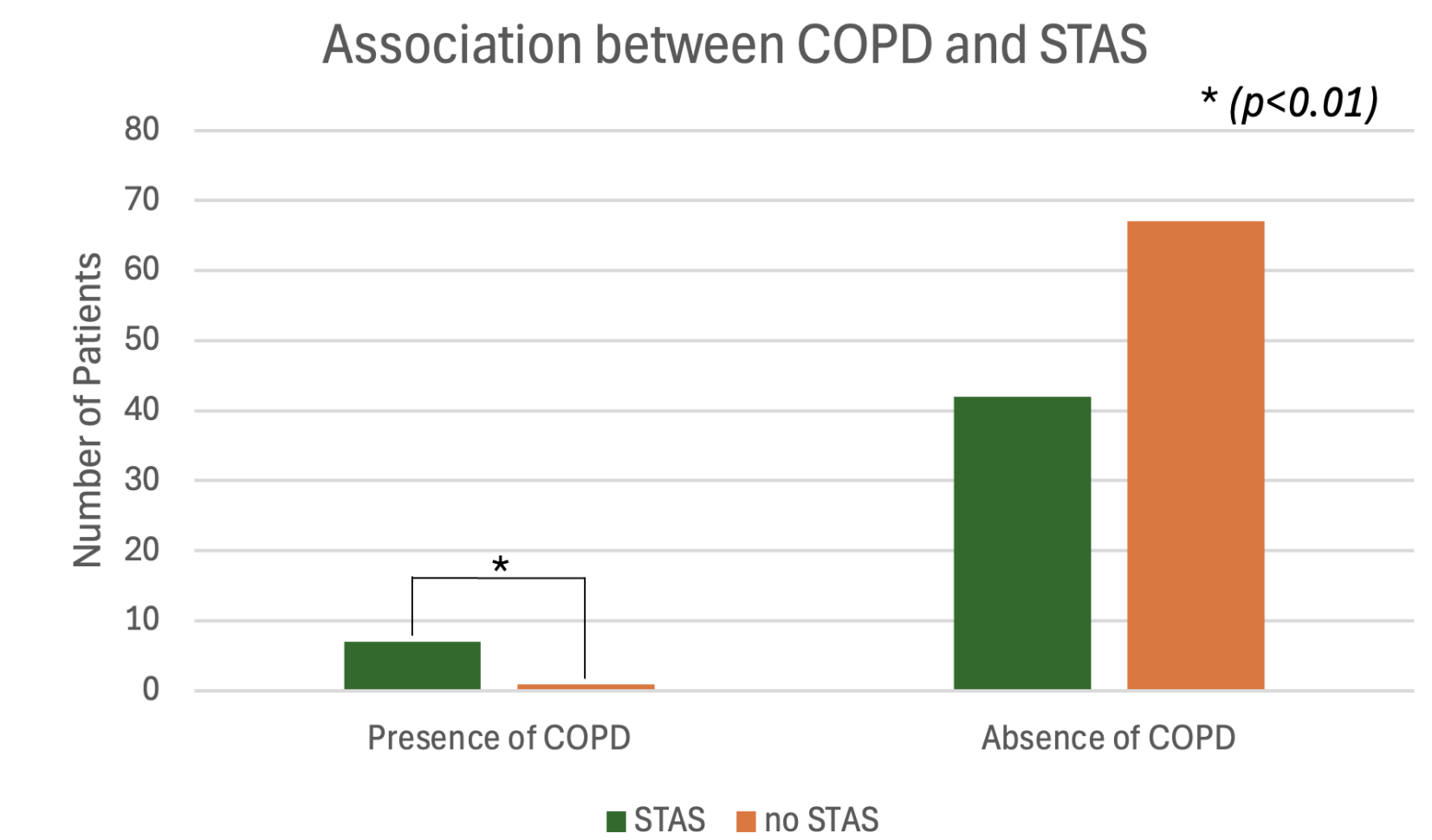


Introduction

Methods & Objectives

- Tumor spread through air spaces (STAS) is a form of aerogenous spread of pulmonary malignancies that has been shown to be a risk factor for overall survival and any recurrence in sub-lobar resection cohorts¹.
- Many institutions across the US do not perform sub-lobar resections. The University of Miami is one of the few institutions that does.
- The association between the tumor marker PD-L1 and STAS has not been studied to date.
- PD-L1 is a tumor marker shown to predict pathologic response to adjuvant immunotherapy².

- The objective of this study was to determine the association between STAS and PD-L1 expression among non-small cell lung cancer (NSCLC) patients. We also analyzed associations between various clinical and pathologic variables.
- Between November 2014 and April 2024, we identified 117 patients who underwent segmentectomy resection for T1-T4 NSCLC. We divided the population into STAS (+) and STAS (-) groups.
- PD-L1 expression was analyzed by reviewing the pathologic report and was defined as TPS \geq 1%.
- Statistical analysis was performed using SPSS 29.0 (IBM Corp).
- Multivariate analyses were performed with the Cox multivariate regression model. Fisher's exact test was used to analyze associations between categorical variables.
- All statistical tests were two-sided and used a 5% significance level.



Results

- STAS was present in 49 of 117 (41.8%) of the reviewed cases.
- There was a significant association between the presence of STAS and COPD, lymphovascular invasion, and visceral-pleural invasion.
- The presence of PD-L1 expression was significantly higher among patients with STAS.

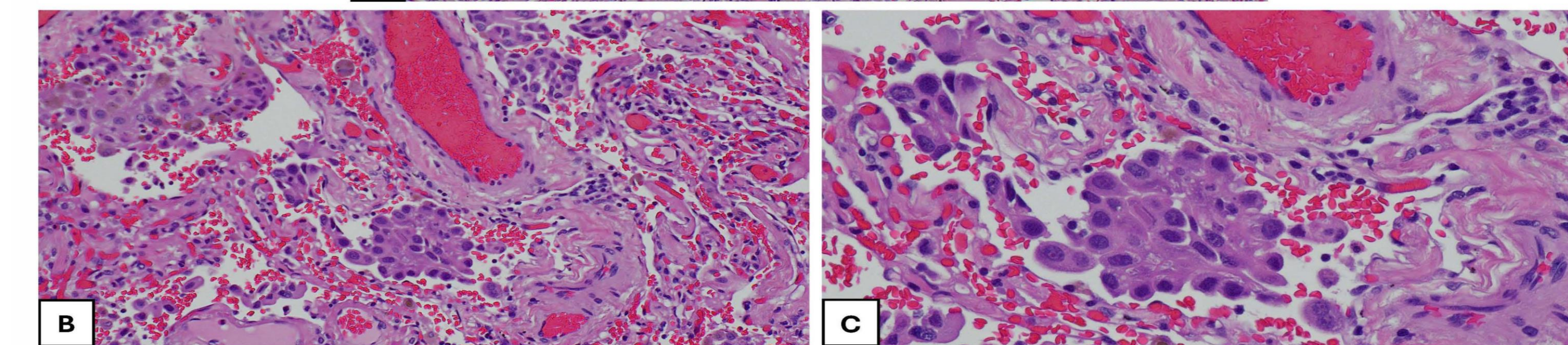
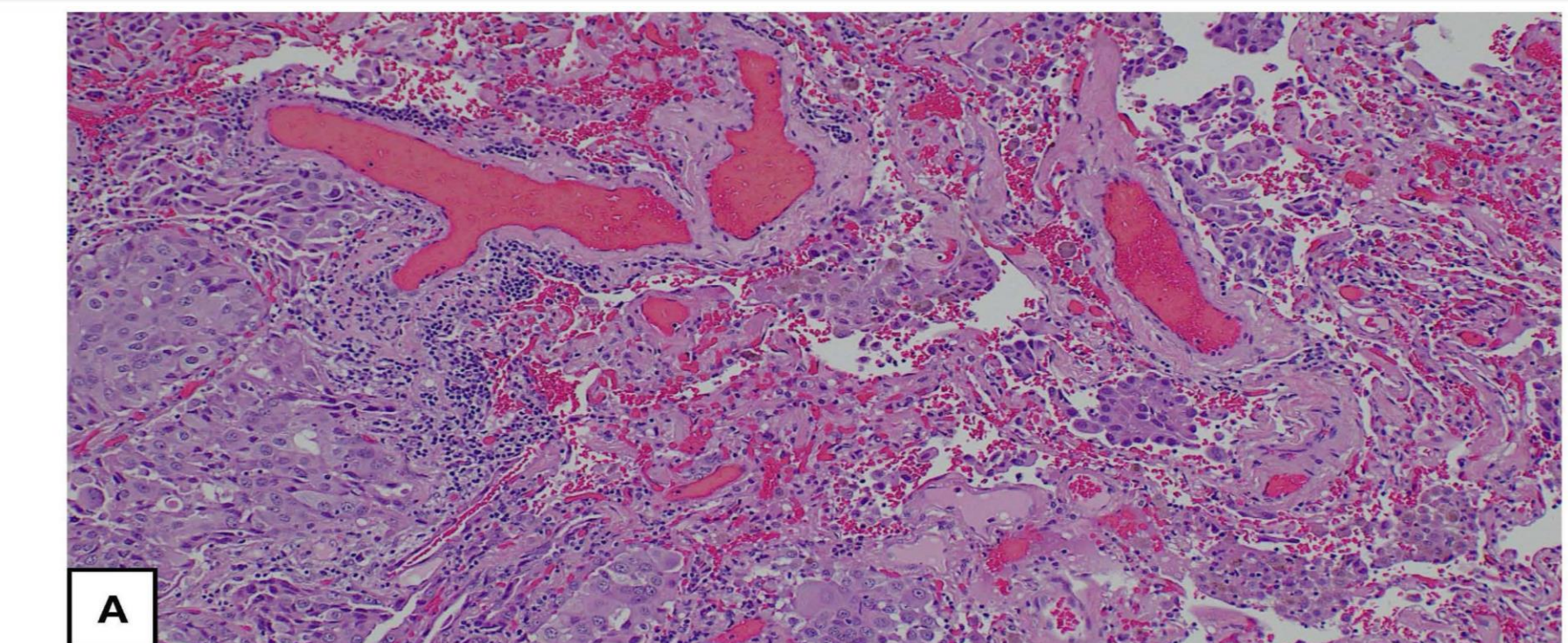
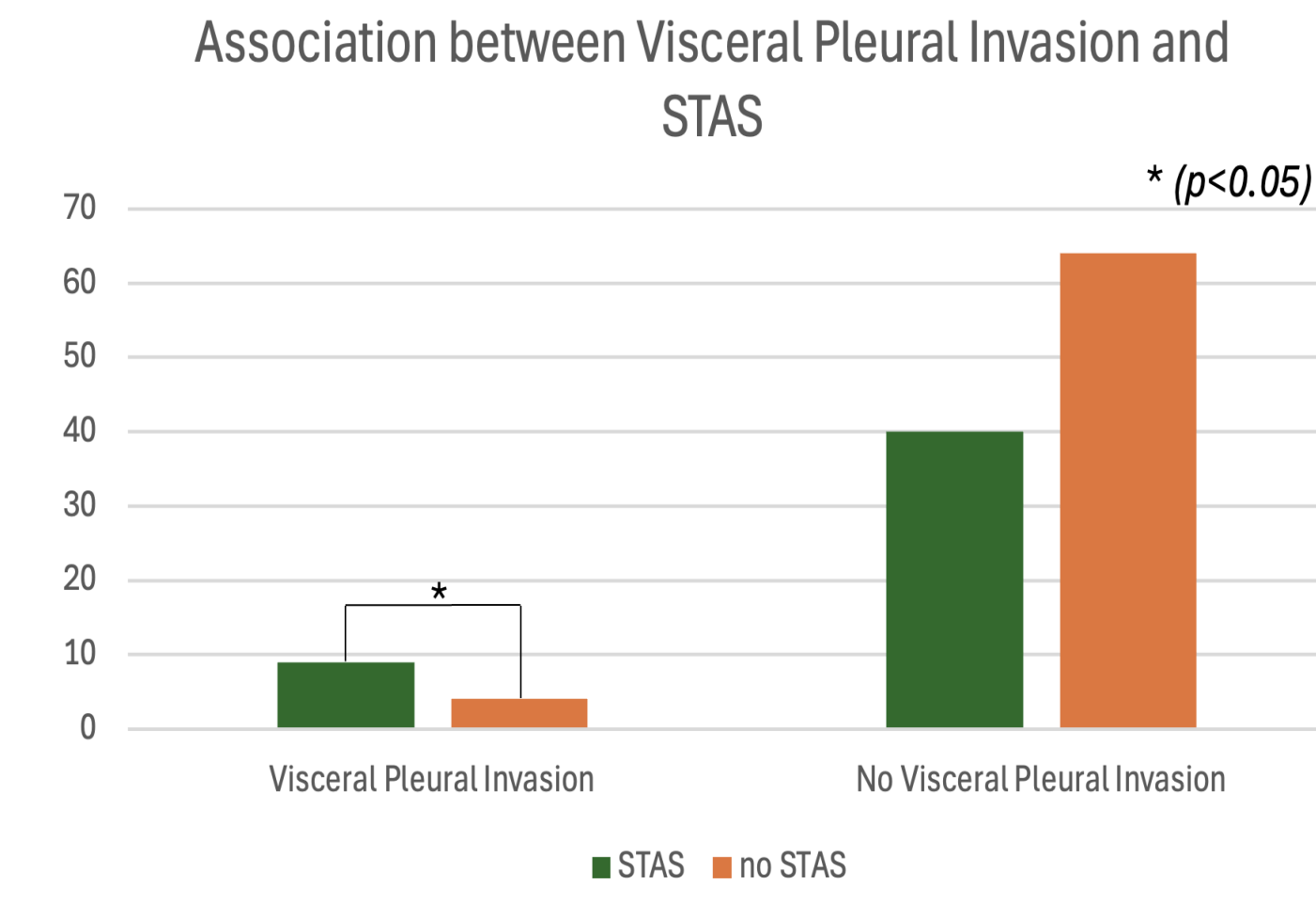
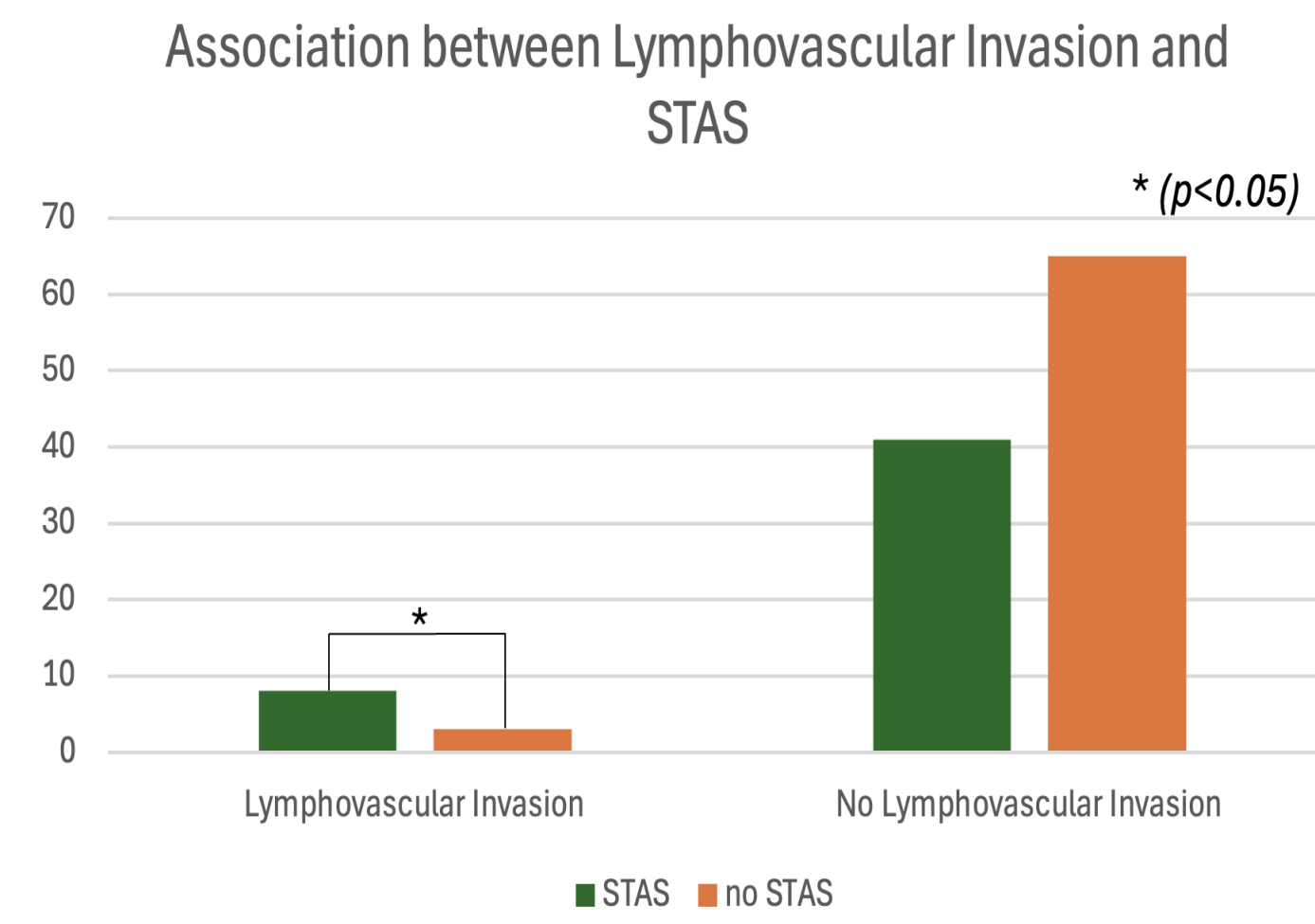
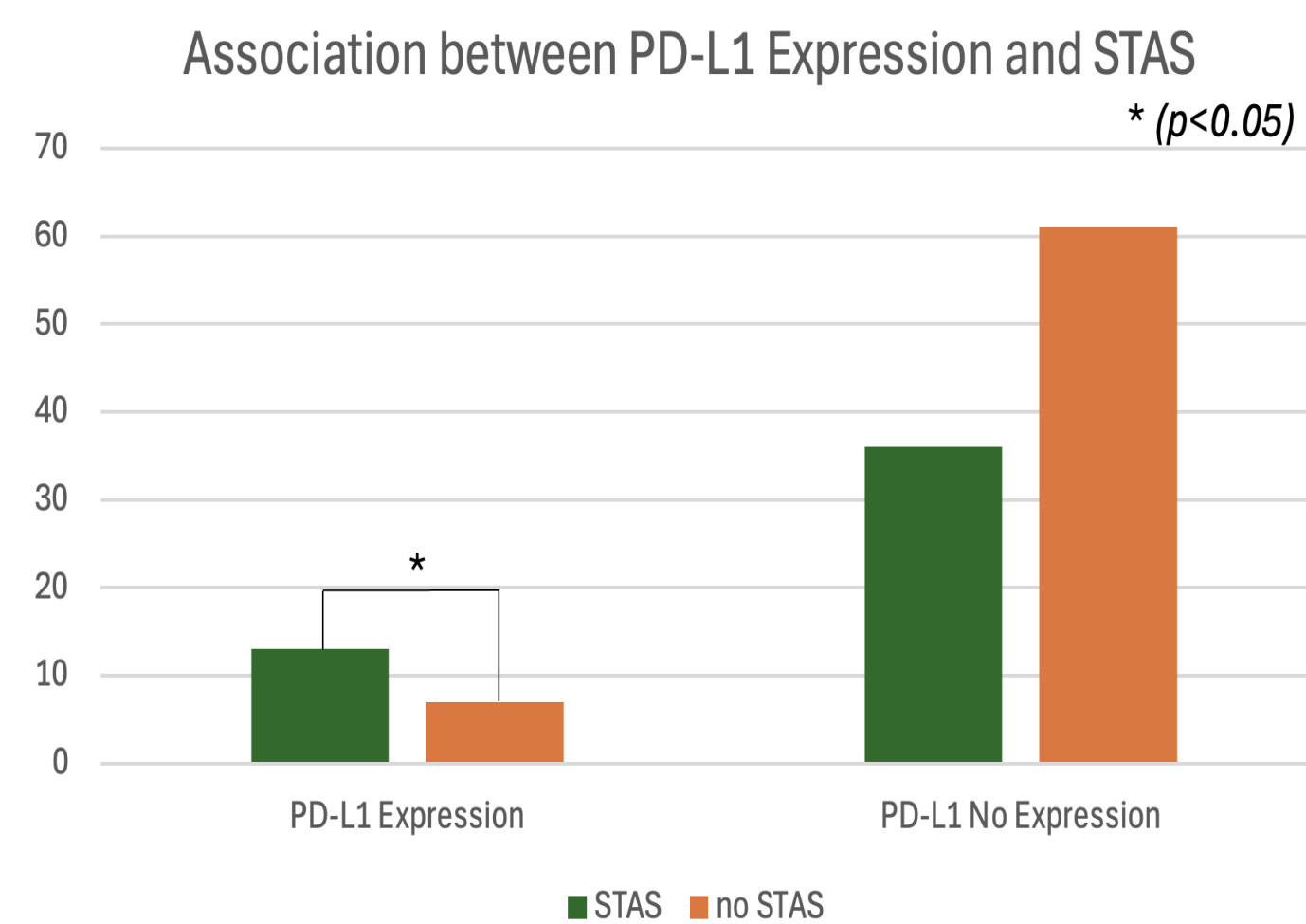


Figure 1: Histologic section of micropapillary adenocarcinoma with STAS. A: H&E, 4x. B: H&E 20x. C: H&E 40x.

Conclusions

- In this study, there was a positive correlation between the presence of STAS and PD-L1. There was also a significant association between STAS and the presence of COPD, visceral pleural invasion, and lymphovascular invasion.
- These findings suggest that PD-L1 expression in small-biopsy samples may predict if patients are more likely to have STAS.

References & Acknowledgements

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