



Clinical-Pathological Staging Discordance in Surgically Resected Lung Cancer: Rates, Predictors, and Survival Implications

R. Abdel Jalil, K. Rabi, S. Yaser, H. Abu Jazar, A. Zayed, J. Khader, A. Al-nsour, N. Mahmoud, S. Obeidat, I. Alnimer, A. Al-fandi, R. Almasri, S. Alshwayyat, H. Haddad, Y. Safi, O. Ramadan

King Hussein Cancer Center, Amman, JO

Introduction

Preoperative lung cancer staging guides treatment; however, the discordance between clinical and pathological stages after surgical resection remains incompletely characterized. This study describes the rates, patterns, and predictors of staging discordance and examines its impact on survival rates.

*Better staging.
Better decisions.
Improved outcomes.*

Methods

- Retrospective analysis**
2015 – 2025
n = 379 (surgical resection)
- Primary endpoint**
Clinicopathological staging discordance
- Secondary outcome**
Overall survival
- Excluded**
Neoadjuvant therapy + pCR
(n = 44) → 335 patients for comparison
- Analysis**
 - Concordance: numerical stage groups
 - Multivariable logistic regression (predictors)
 - Kaplan-Meier & log-rank test (survival)

Study Population (n = 335)

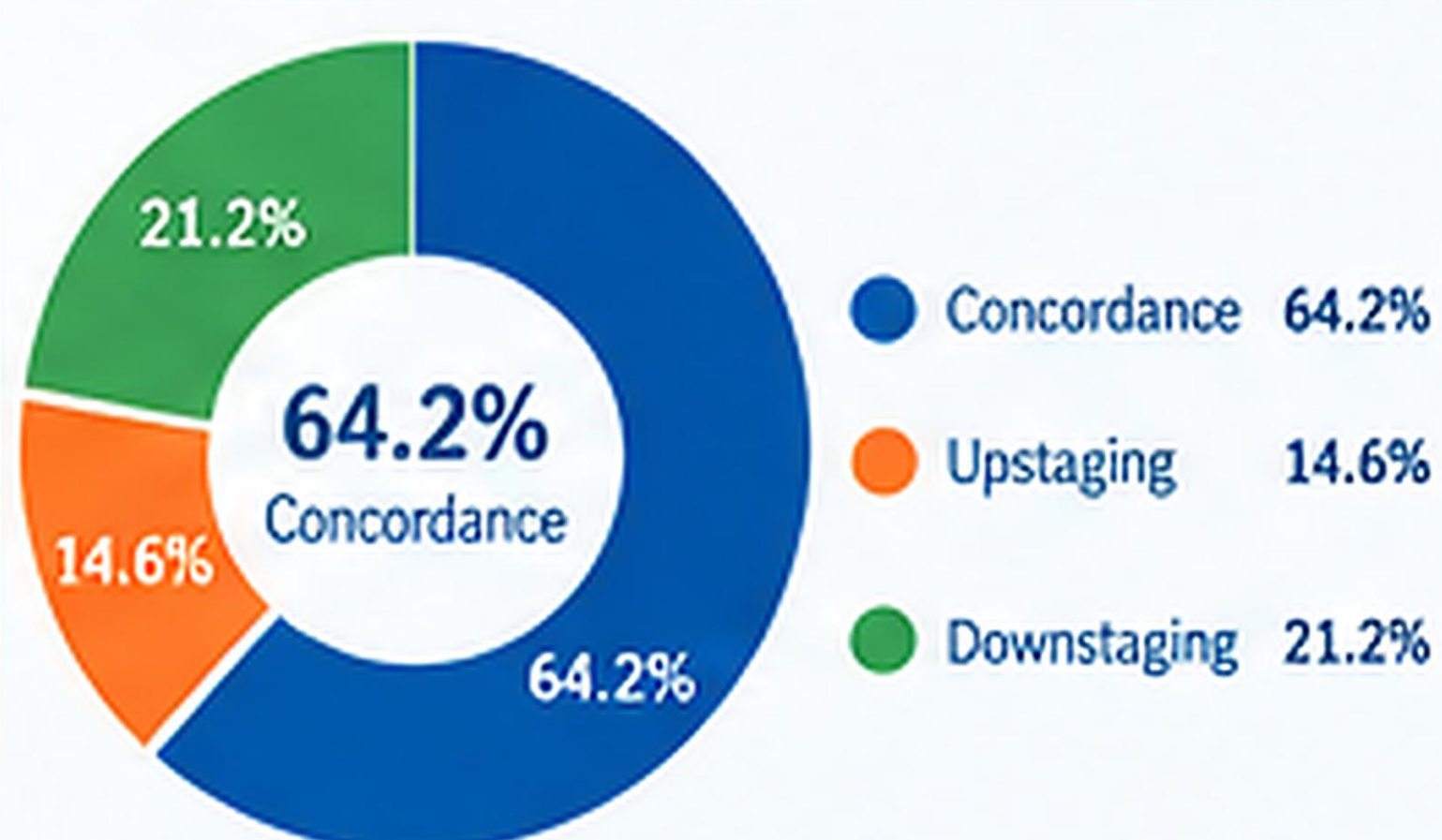
- Histology**
 - Adenocarcinoma 47.8%
 - Squamous cell carcinoma 26.1%
 - Carcinoid tumors 11.1%
 - Other
- Surgical approach**
 - Minimally invasive (VATS 69.3%, Robot 6.2%) 75.5%
 - Open thoracotomy 24.5%
- Extent of resection**
 - Anatomical resection 93.9%
 - Lobectomy / sleeve 82.4%
 - Bilobectomy 4.7%
 - Pneumonectomy 6.8%
 - Wedge resection (non-anatomical) 6.1%

Key Findings at a Glance

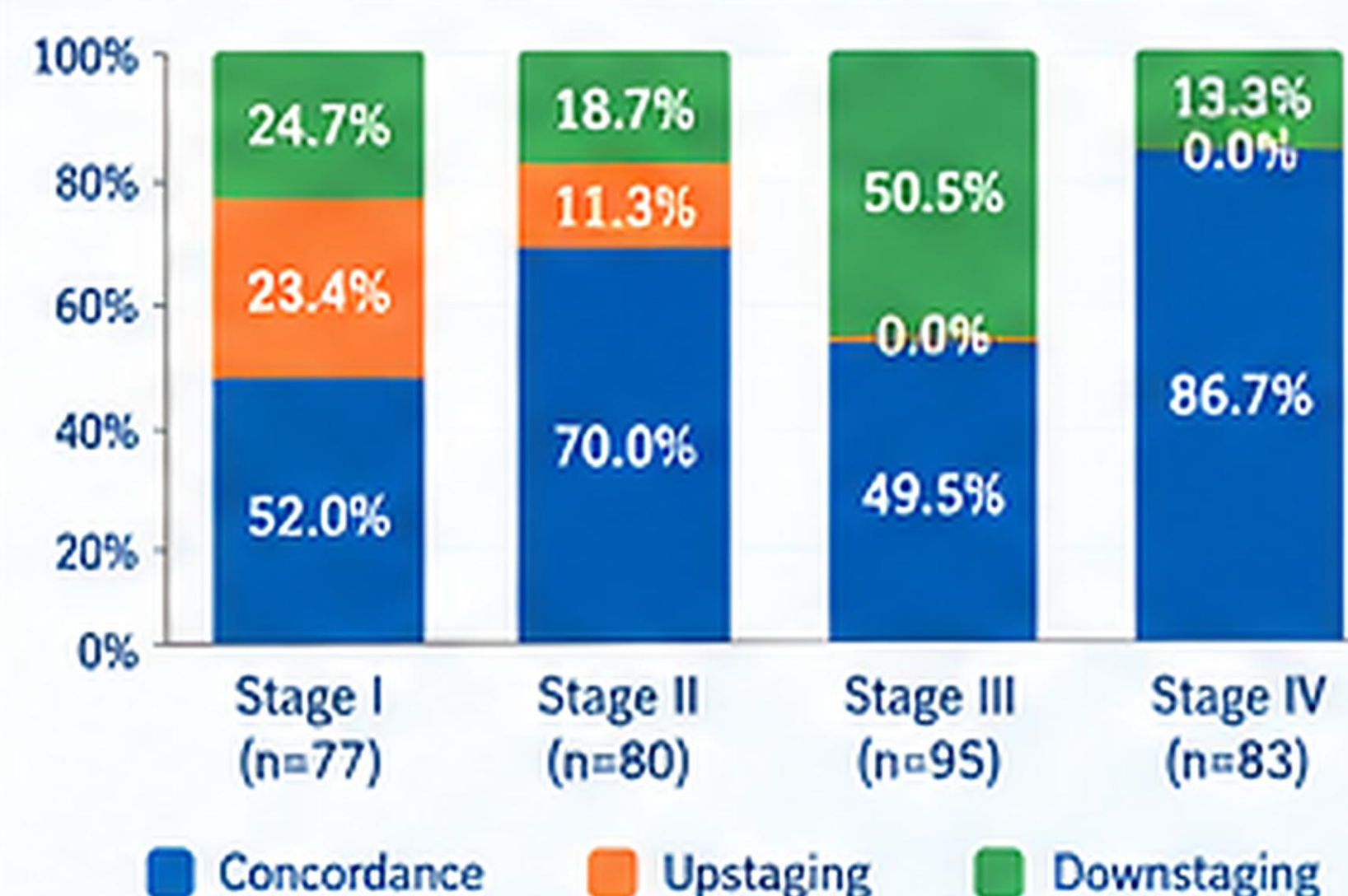
- Discordance rate**
35.8%
(14.6% upstaging, 21.2% downstaging)
- Highest upstaging**
Stage I (23.4%)
(No upstaging in Stage IV)
- Highest downstaging**
Stage III (50.5%)
- EBUS associated with higher concordance**
(71.8% vs. 60.1%)
and lower upstaging (7.7% vs. 14.8%)
- No independent predictors of upstaging**
No impact of discordance on overall survival

Results

1. Staging Discordance Rate



2. Discordance by Clinical Stage



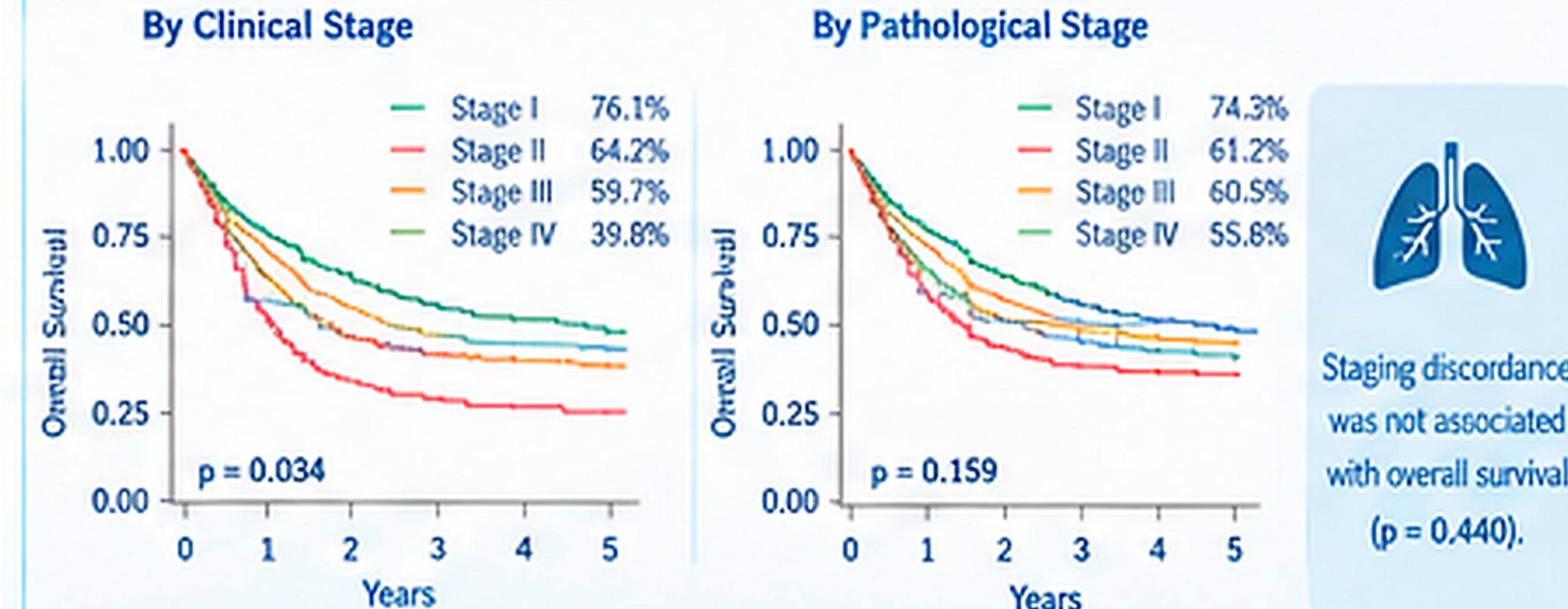
3. Impact of Preoperative Staging

- EBUS (vs. no EBUS)**
 - Higher concordance 71.8% vs. 60.1% ($p < 0.05$)
 - Lower upstaging 7.7% vs. 14.8%
- Mediastinoscopy (vs. no mediastinoscopy)**
 - Higher upstaging (in absence) 17% vs. 9% ($p = 0.044$)

Predictors of Upstaging

- No preoperative variable independently predicted upstaging in multivariate analysis.

5. Survival Analysis



Conclusions



Clinicopathological stage discordance occurred in **more than one-third** of patients who underwent lung cancer resection.



The absence of invasive mediastinal staging was associated with higher upstaging rates.



Staging discordance did not significantly affect the overall survival in this cohort.

*Accurate staging
for better outcomes*