

# Clinical Characteristics Associated With Postoperative Recurrence in Resected Early-Stage EGFR-Mutant NSCLC: A Korean Multicenter EGFR Registry Analysis

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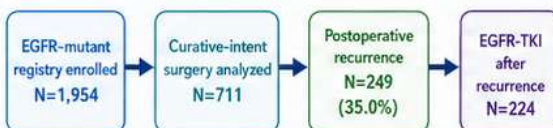
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## BACKGROUND & OBJECTIVE

- Despite complete resection, approximately 30%–55% of EGFR-mutant NSCLC eventually recurs.
- Adjuvant osimertinib for 3 years is standard for stage IB–IIIA disease, but cost, toxicity, and overtreatment remain concerns.
- Identifying patients at high risk of postoperative recurrence remains clinically important.
- Objective:** To evaluate clinicopathologic factors associated with postoperative recurrence and recurrence-free survival (RFS).

## METHODS

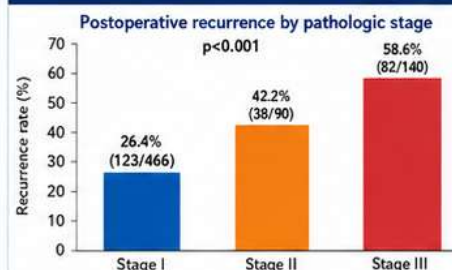
- Korean multicenter EGFR registry.
- Between 2022 and June 2024, 1,954 patients with EGFR-mutant lung cancer were enrolled.
- Updated analysis included 711 patients with early-stage disease who underwent curative-intent surgery.
- Recurrence rates, logistic regression for recurrence, and Kaplan-Meier / log-rank analysis for RFS were performed.
- Post-recurrence EGFR-TKI outcomes were also evaluated.



## COHORT OVERVIEW

|                           |                 |
|---------------------------|-----------------|
| Total analyzed            | 711             |
| Stage I / II / III        | 466 / 90 / 140  |
| Overall recurrence        | 249/711 (35.0%) |
| EGFR-TKI after recurrence | 224             |
| Brain recurrence          | 50/249 (20.1%)  |

## RESULTS



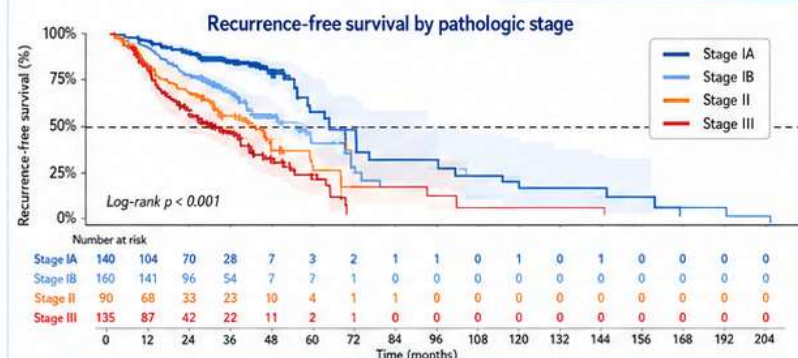
### Multivariable logistic regression

Pathologic stage was the strongest independent predictor of recurrence.

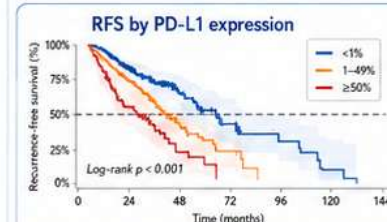
● Stage II vs Stage I:  
OR 3.15 (95% CI 1.62–6.21),  $p<0.001$

● Stage III vs Stage I:  
OR 5.34 (95% CI 2.81–10.47),  $p<0.001$

Univariable signals: higher stage, poor/unknown differentiation, surgical procedure, and perioperative treatment.



Stage-stratified RFS differed significantly (log-rank  $p<0.001$ ).



Median RFS: 43.9, 36.0, and 30.2 months, respectively ( $p<0.001$ ).

### Additional RFS stratifiers

- Solid component: log-rank  $p<0.001$
- Micropapillary component: log-rank  $p<0.001$
- Acinar component: log-rank  $p=0.014$
- Smoking history was not significant in updated RFS analysis ( $p=0.208$ ).

Overall interpretation: pathologic stage remained the dominant recurrence-risk factor; histologic pattern and PD-L1 helped stratify RFS.

## PATTERNS OF RECURRENCE

Intrathoracic recurrence

56.6%

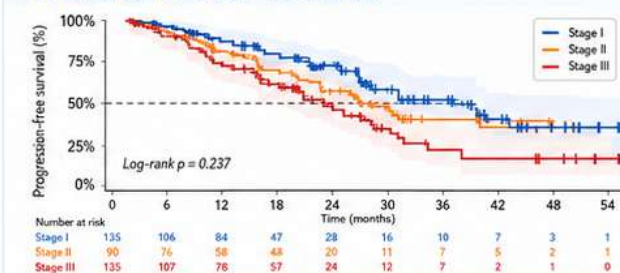
Extrathoracic recurrence

43.0%



Most frequent sites: lung 56.6%, pleura 20.9%, brain 20.1%, bone 17.3%, intrathoracic LN 14.5%.

## PFS AFTER EGFR-TKI FOR RECURRENCE



- EGFR-TKI after recurrence: n=224
- PFS by initial pathologic stage was not significantly different in the updated analysis (log-rank  $p=0.237$ ).
- Overall post-recurrence PFS curve is shown in the source figure set.

## CONCLUSIONS

- ✓ Postoperative recurrence occurred in 249/711 patients (35.0%) after curative-intent surgery.
- ✓ Recurrence increased markedly with pathologic stage: 26.4%, 42.2%, and 58.6% in stage I, II, and III, respectively.
- ✓ Pathologic stage was the most robust independent predictor of recurrence.
- ✓ Updated findings support postoperative risk stratification and individualized adjuvant treatment decisions.

