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Lymphadenectomy in Clinically Node-Negative Ovarian Cancer (FIGO I-III): A Population-Based Analysis from the Baden-Wuerttemberg Cancer Registry

Hannes Endres¹, Irina Surovtsova², Katrin Butscher³, Ingolf Juhasz-Böss¹, Philipp Morakis³

¹ Department of Obstetrics and Gynecology, University Medical Center Freiburg, Freiburg, Germany
² Clinical State Registry Baden-Württemberg GmbH, Baden-Württemberg Cancer Registry (BWCR), Stuttgart, Germany
³ Quality Conferences Office at the Clinical State Registry Baden-Württemberg GmbH, Baden-Württemberg Cancer Registry (BWCR), Stuttgart, Germany

Background

- Systematic lymphadenectomy (LND) in clinically node-negative ovarian cancer improves staging by detecting occult nodal metastases, but its survival benefit in early-stage disease remains unclear
- While the LION trial demonstrated no survival benefit in advanced ovarian cancer, evidence for FIGO I-III (early/intermediate disease) is limited
- To address this gap, we present a population-based analysis from the Baden-Württemberg Cancer Registry (BWCR), Germany

Methods

- **Study design & Data source:** Retrospective, population-based Baden-Württemberg Cancer Registry (BWCR)
- **Study population:** Patients ≥18 years diagnosed 2009-2024 with clinically node-negative (cN0) epithelial ovarian, tubal, or primary peritoneal carcinoma (FIGO I-III) undergoing primary surgery
- **Groups:** Patients were stratified according to performance of systematic lymphadenectomy (LND vs. no LND)
- **Endpoints:** Overall survival (OS) and detection rate of occult nodal metastases
- **Statistical analysis:** Kaplan-Meier survival estimates and multivariable Cox models adjusted for age, FIGO stage, grade, and histologic subtype

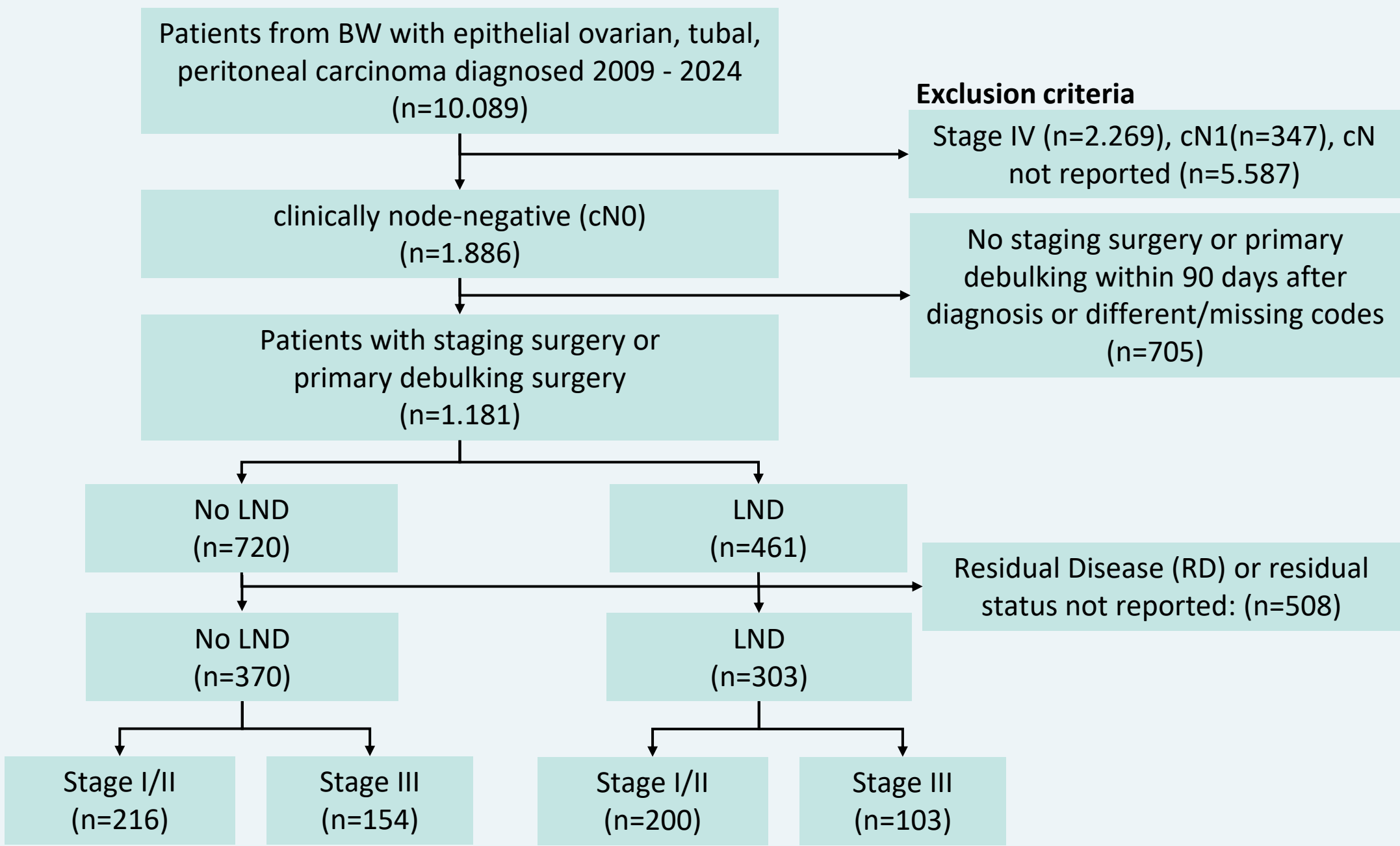
Study Cohort: Baseline Characteristics

	Overall	no LND	LND	p-value
Characteristic				
n (%)	673	370 (55.0)	303 (45.0)	
Age - median	63.0	66.0	60.0	<0.001
Histology - no(%)				0.009
endometrioid	131 (19.4)	63 (17.3)	67 (22.1)	
clear cell	52 (7.7)	21 (5.7)	31 (10.2)	
mucinous	68 (10.1)	45 (12.1)	23 (7.6)	
serous	423 (62.8)	241 (65.0)	182 (60.1)	
Grad - no(%)				0.615
1	127 (20.0)	71 (20.8)	57 (19.5)	
2	81 (12.8)	47 (13.8)	34 (11.6)	
3	426 (67.2)	223 (65.4)	201 (68.8)	
Stage - no(%)				0.117
Stage I	321 (47.6)	166 (45.0)	154 (50.8)	
Stage II	95 (14.1)	49 (13.2)	46 (15.2)	
Stage III	258 (38.3)	155 (41.8)	103 (34.0)	

- 674 patients included: 370 (55.0%) no LND, 303 (45.0%) LND
- Median age: 63 years; **LND patients younger** (60 vs. 66 years; p < 0.001)
- **Histology differed** significantly (p = 0.014): serous most common (62.8%)
- No differences in grade (p = 0.660) or FIGO stage (p = 0.117) between groups

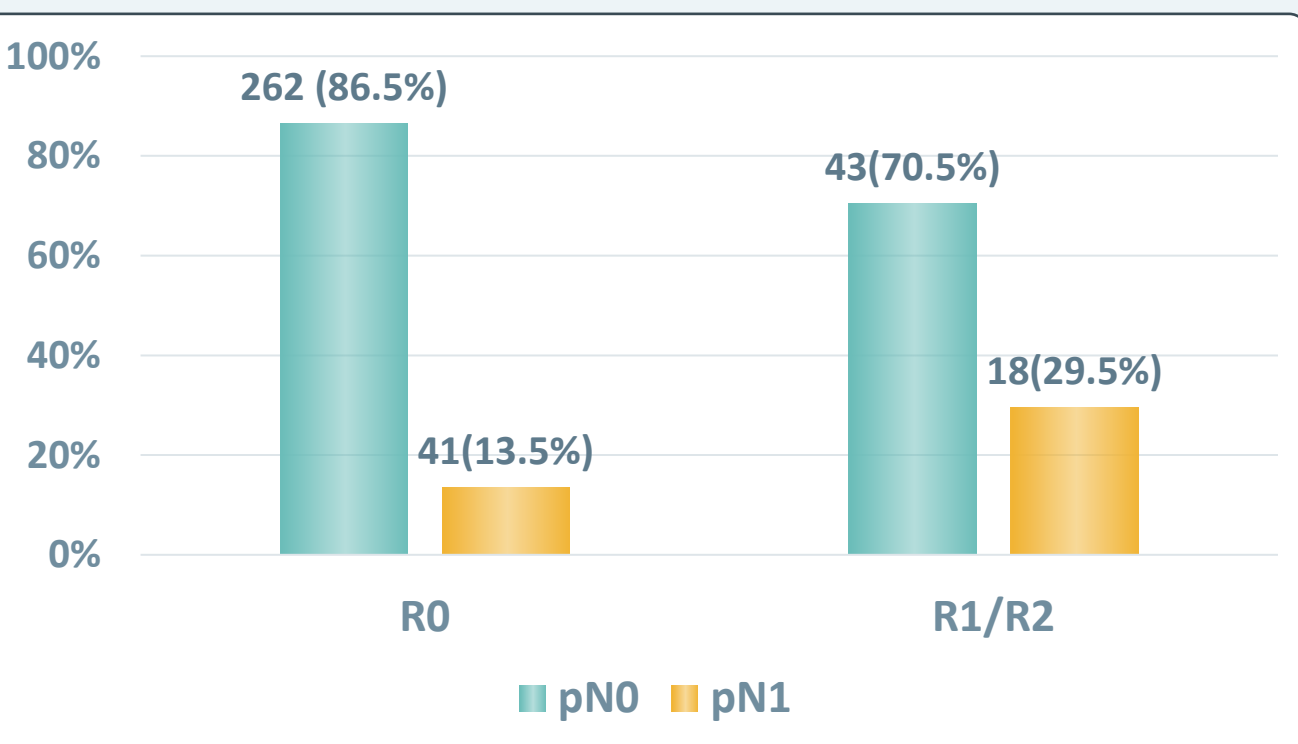
Results

Consort diagram and cohort definition



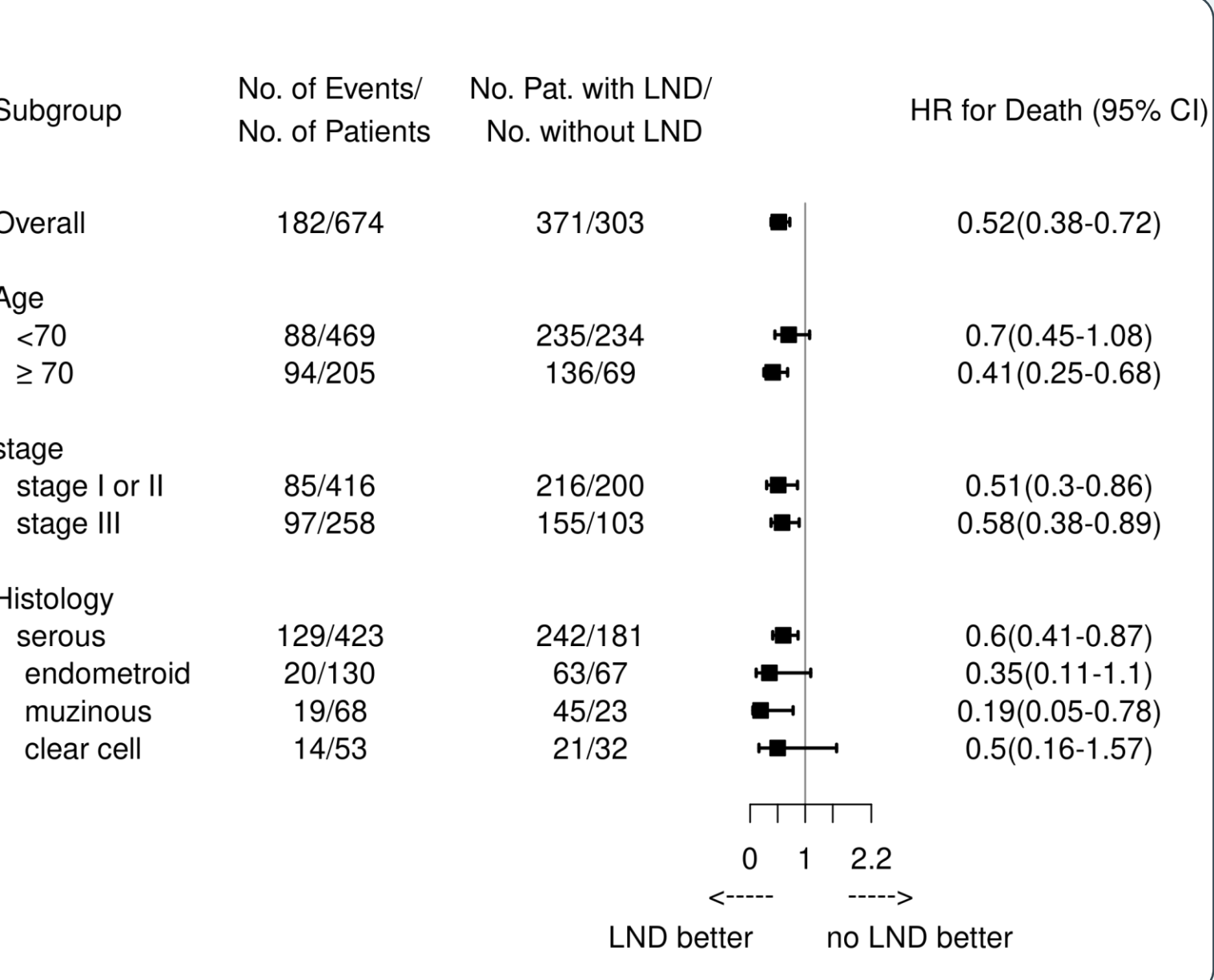
- Flowchart illustrating patient selection, exclusion criteria, and final cohort stratification according to lymphadenectomy and postoperative FIGO stage

Residual tumor status und nodal positivity



- Distribution of pathological nodal status after lymphadenectomy stratified by residual tumor status
- Nodal positivity: significantly more frequent in patients with RD (R1/R2) compared to those with complete resection (RO): 29.5% vs. 13.5%, p = 0.004

Impact of LND on Overall Survival in Patients with Complete Resection



- **LND:** improved OS in the overall cohort: aHR 0.52, 95% CI 0.38-0.72
- **No significant survival benefit in patients <70 years**
- Survival associations differed by **histologic subtype** and were not consistently observed across all histologies

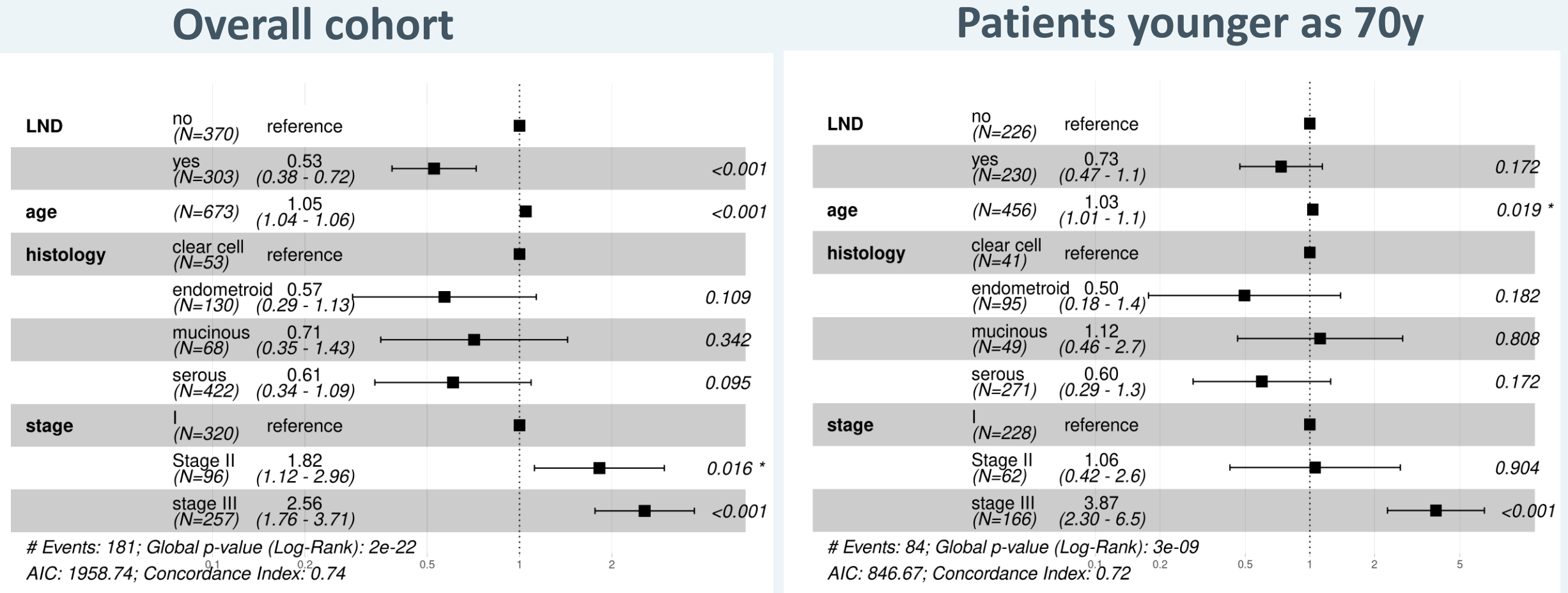


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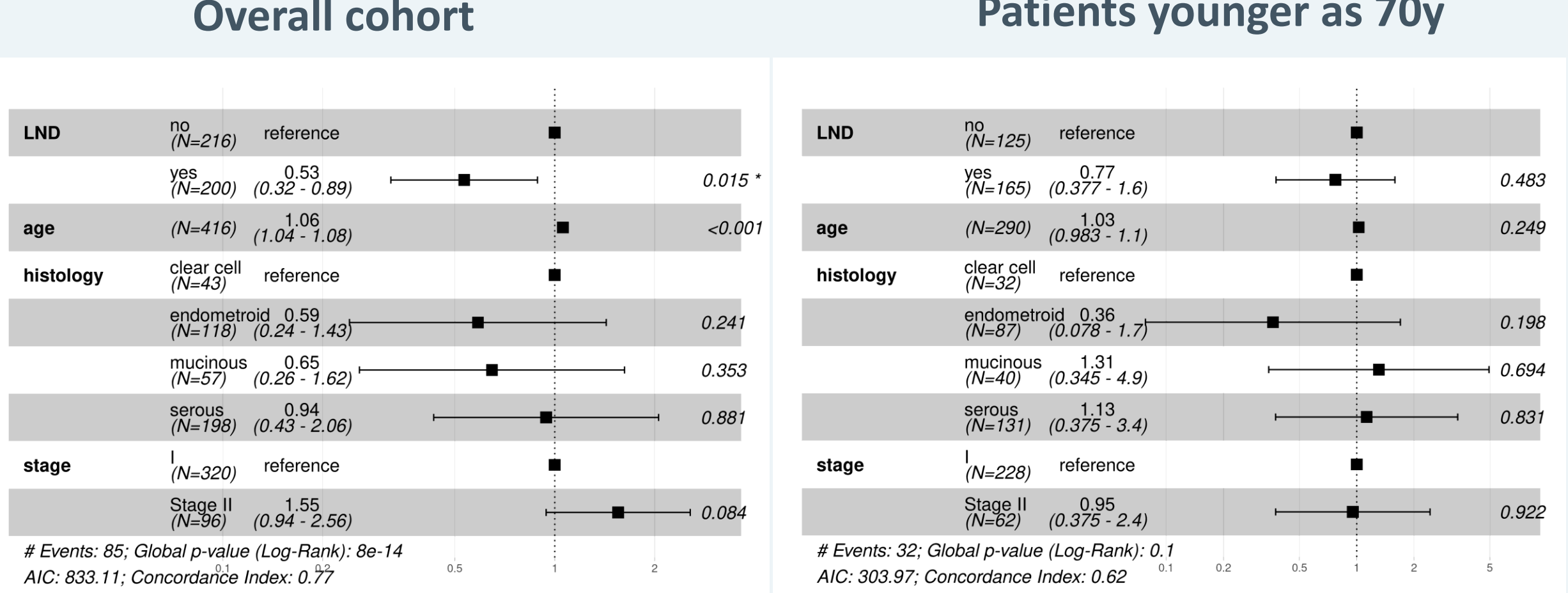
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Effect of LND in Adjusted Survival Models (Stage I-III, No RD)



- LND was independently associated with improved OS in the overall cohort (HR 0.53, 95%CI 0.38-0.72, p<0.001)
- This association was not observed in patients aged <70 years (HR 0.73, 95%CI 0.47-1.1, p=0.172)
- Prognostic factor: stage
- The findings support the possibility of selection effects rather than a uniform therapeutic benefit of LND

Early-Stage Disease (FIGO I-II, No-RD): Multivariable Analysis



- LND remained an independent prognostic factor for overall survival in patients with FIGO I-II disease
- However, the association was no longer significant in patients aged <70 years

Conclusion

- Lymphadenectomy identified occult nodal metastases in a clinically relevant proportion of patients, supporting its role in surgical staging
- However, the absence of a survival association in patients younger than 70 years suggests that the apparent benefit observed in the overall cohort may be driven by selection effects rather than a consistent therapeutic impact

Conflict of interest : No conflict of interest

