



Radiotherapy vs. Surgery in Induction- Effective Stage III NSCLC: An Overlap-weighting Adjusted Analysis of Responders to Immunochemotherapy

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INTRODUCTION

For patients with locally advanced non-small cell lung cancer (NSCLC) who achieve clinical response (complete or partial response, CR/PR) after induction immunochemotherapy, the optimal locoregional consolidation strategy remains unclear. We compared the effectiveness of radiotherapy versus surgical resection in this responder-restricted population for stage IIIA-N2IIIB disease.

METHODS

Design:

This retrospective cohort study included driver-negative stage IIIA-N2IIIB NSCLC patients who achieved CR/PR following induction immunochemotherapy. Progression-free survival (PFS) and overall survival (OS) were analyzed and compared between groups using Kaplan-Meier methods, Cox proportional hazards models, overlap weighting(OW), and subgroup analyses were also conducted.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Among induction-effective stage IIIA-N2IIIB NSCLC patients, surgical resection was associated with superior survival, particularly in squamous histology and non-smokers, and should be sincerely considered.

Future Direction for Research

- These findings support multidisciplinary evaluation for surgical consolidation in appropriate responders.

REFERENCES & ACKNOWLEDGEMENTS

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RESULTS

- We used overlap weighting to balance the baseline of two groups, after which the SMD dropped sharply, showing a perfect balance(Figure 1). After adjustment, surgery was associated with significantly improved PFS (HR = 0.43, 95%CI 0.19-0.95) (Figure 2).
- In multivariable cox analysis, local treatment (HR = 0.38, 95%CI 0.15-0.97, p = 0.043), sex (HR = 6.15, 95%CI 2.29-16.53, p < 0.001), and smoking (HR = 2.55, 95%CI 1.06-6.15, p = 0.037) were associated with PFS (Table 1).
- Subgroup analysis revealed that patients with squamous histology benefit significantly from surgery (HR = 0.36, 95%CI 0.15-0.87) and non smokers (HR = 0.14, 95%CI 0.02-0.77) benefit significantly from surgery(Figure 3).

Propensity-score distributions
Max |SMD| before OW = 1.111; after OW = 0.000

Figure 1

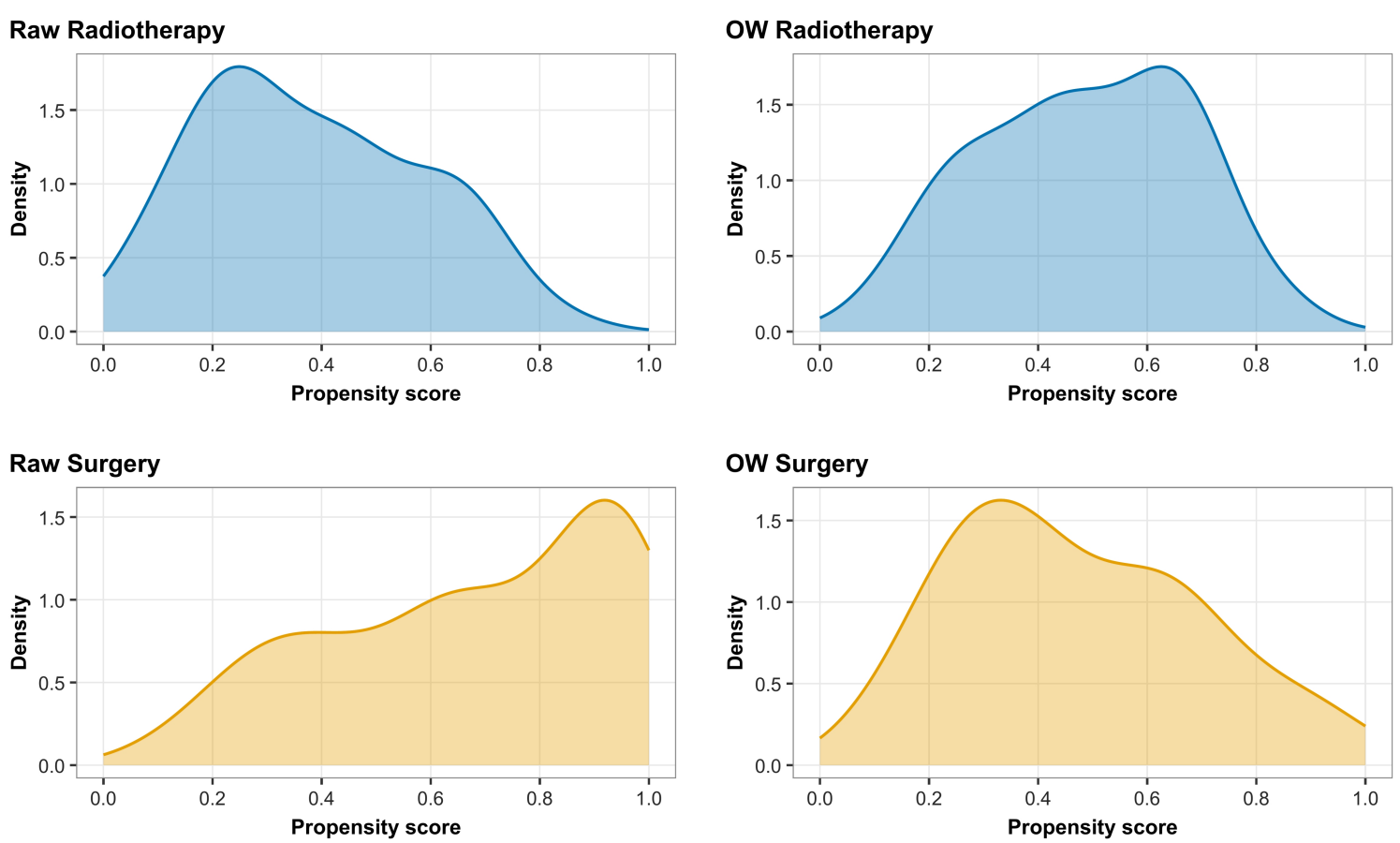


Table 1

Variable	HR (95% CI)	P value
Local treatment	0.38 (0.15-0.97)	0.043
Age	0.96 (0.91-1.02)	0.166
Sex	6.15 (2.29-16.53)	<0.001
Smoking status	2.55 (1.06-6.15)	0.037
Histology	1.04 (0.26-4.23)	0.954
Clinical stage	2.14 (0.86-5.35)	0.102

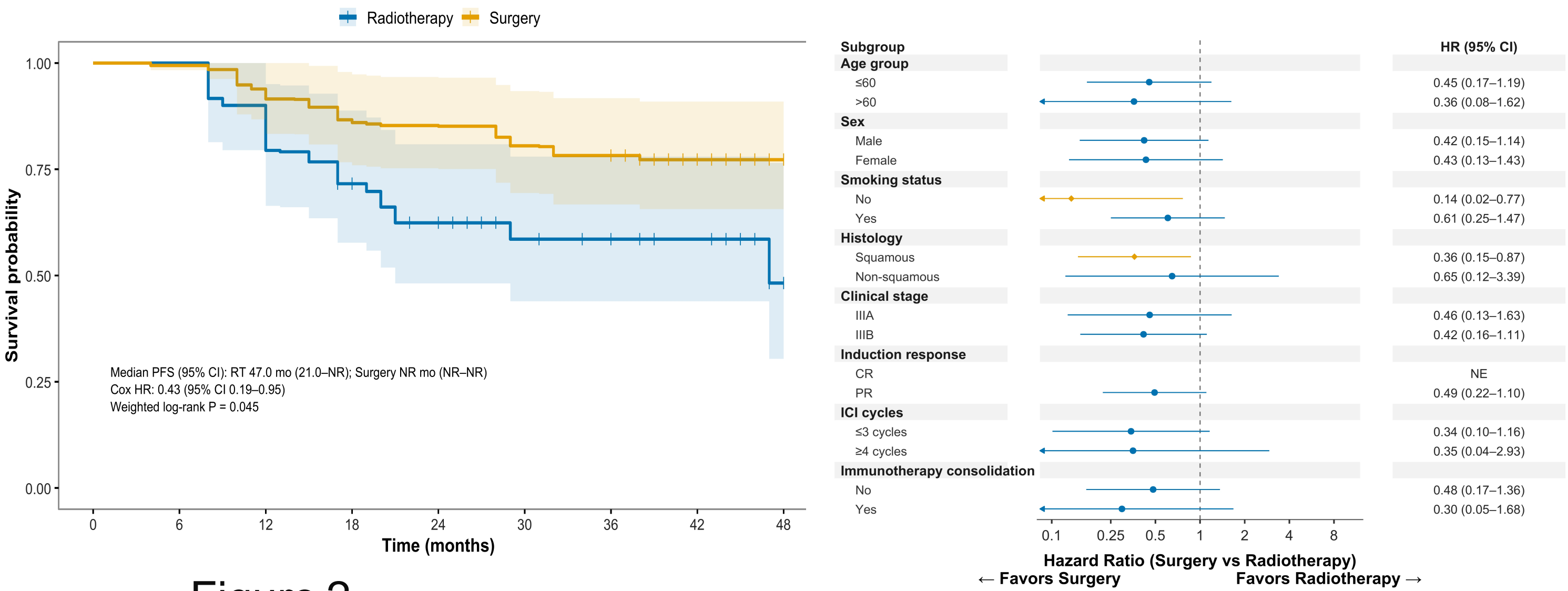


Figure 2

Figure 3