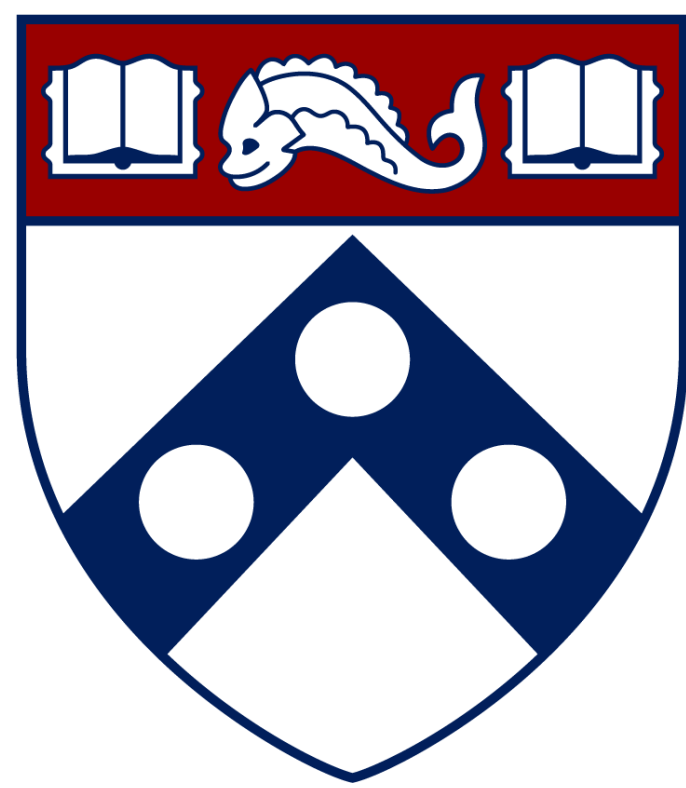




P2108: Real-World Implementation of Tumor-Informed ctDNA MRD Testing in Early-Stage NSCLC: Initial Experience from a Large Academic Center

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INTRODUCTION

- Circulating tumor DNA (ctDNA) minimal residual disease (MRD) assays show promise in risk stratification of early-stage NSCLC¹
- Currently, there is limited real-world data regarding the clinical utility of these assays
- We report our initial experience using a commercial, tissue-informed ctDNA MRD assay at our academic center

STUDY DESIGN

- Between October 2025-June 2026, NeXT Personal (Personalis) testing was ordered on patients with stage I-III NSCLC
- Patients either had upfront surgery (Cohort A; Cohort C, if *EGFR/ALK* positive) or perioperative therapy and surgery (Cohort B)
- Baseline and subsequent ctDNA assays were obtained on each patient
- ctDNA MRD was classified as detected or not detected, with positive results stratified by ctDNA fraction (<10, 10-100, or >100 ppm)

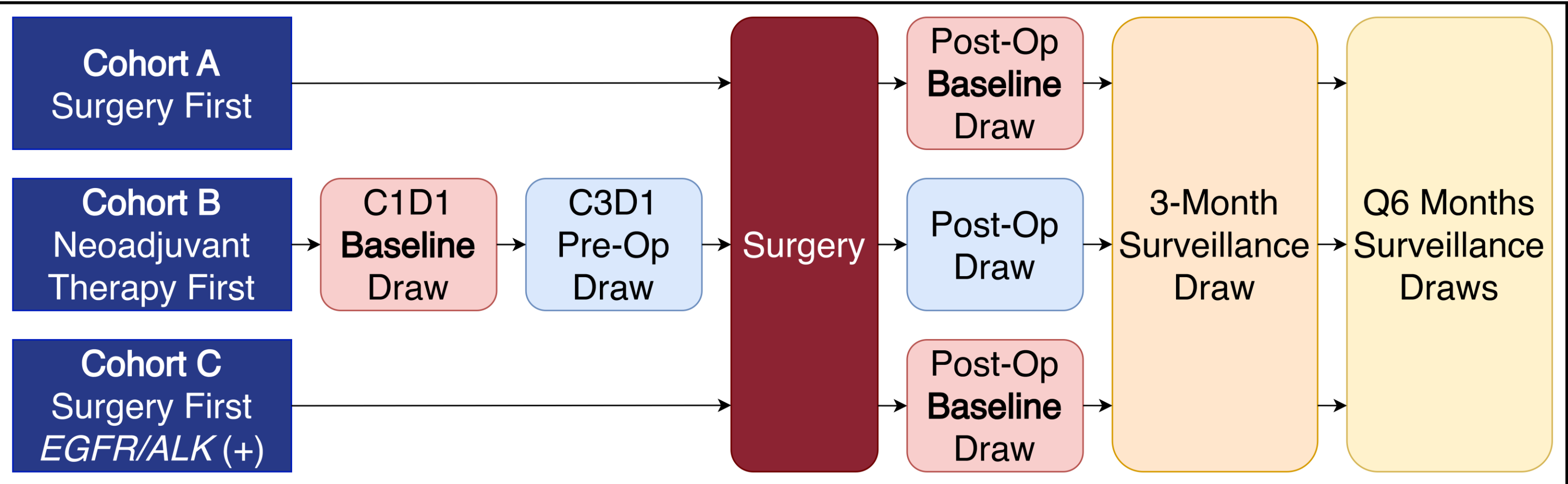


Fig 1. MRD Assay Time Points by Cohort²

RESULTS

Table 1. Demographics by Cohort

Demographics	Cohort A & C (N=33)	Cohort B (N=15)	All (N=48)
Age at Diagnosis (years)			
Median [Min, Max]	65.2 [38.9, 83.9]	65.5 [47.2, 75.6]	65.2 [38.9, 83.9]
Sex			
Female	19 (57.6%)	8 (53.3%)	27 (56.3%)
Male	14 (42.4%)	7 (46.7%)	21 (43.8%)
Histology			
Adenocarcinoma	28 (84.8%)	12 (80.0%)	40 (83.3%)
Squamous cell carcinoma	2 (6.1%)	2 (13.3%)	4 (8.3%)
Other NSCLC	3 (9.1%)	1 (6.7%)	4 (8.3%)
Smoking Status			
Never	12 (36.4%)	3 (20.0%)	15 (31.3%)
Former	17 (51.5%)	11 (73.3%)	28 (58.3%)
Current	4 (12.1%)	1 (6.7%)	5 (10.4%)

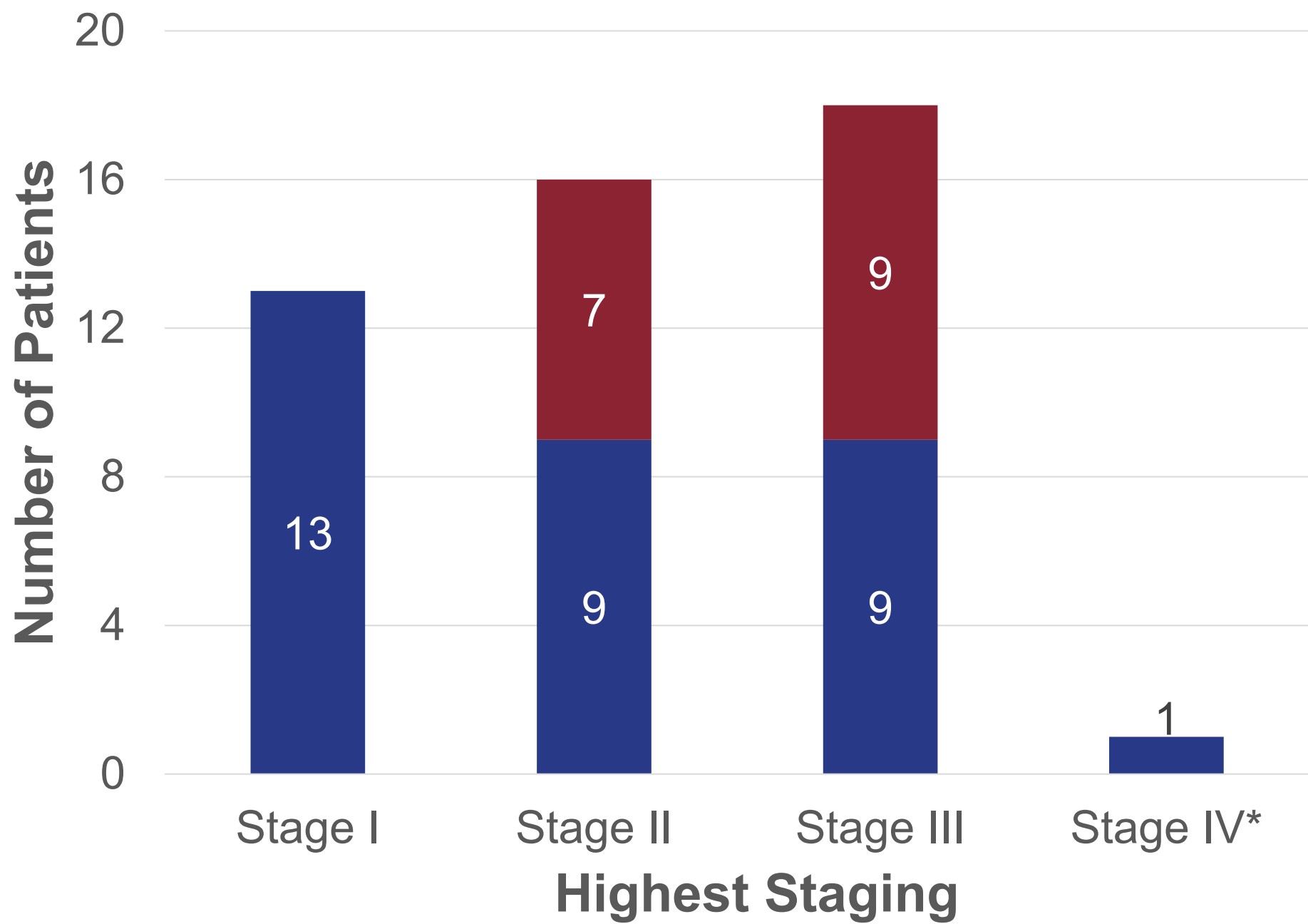


Fig 2. ctDNA Detected Patients by Stage
*1 patient is stage IV due to a solitary brain met

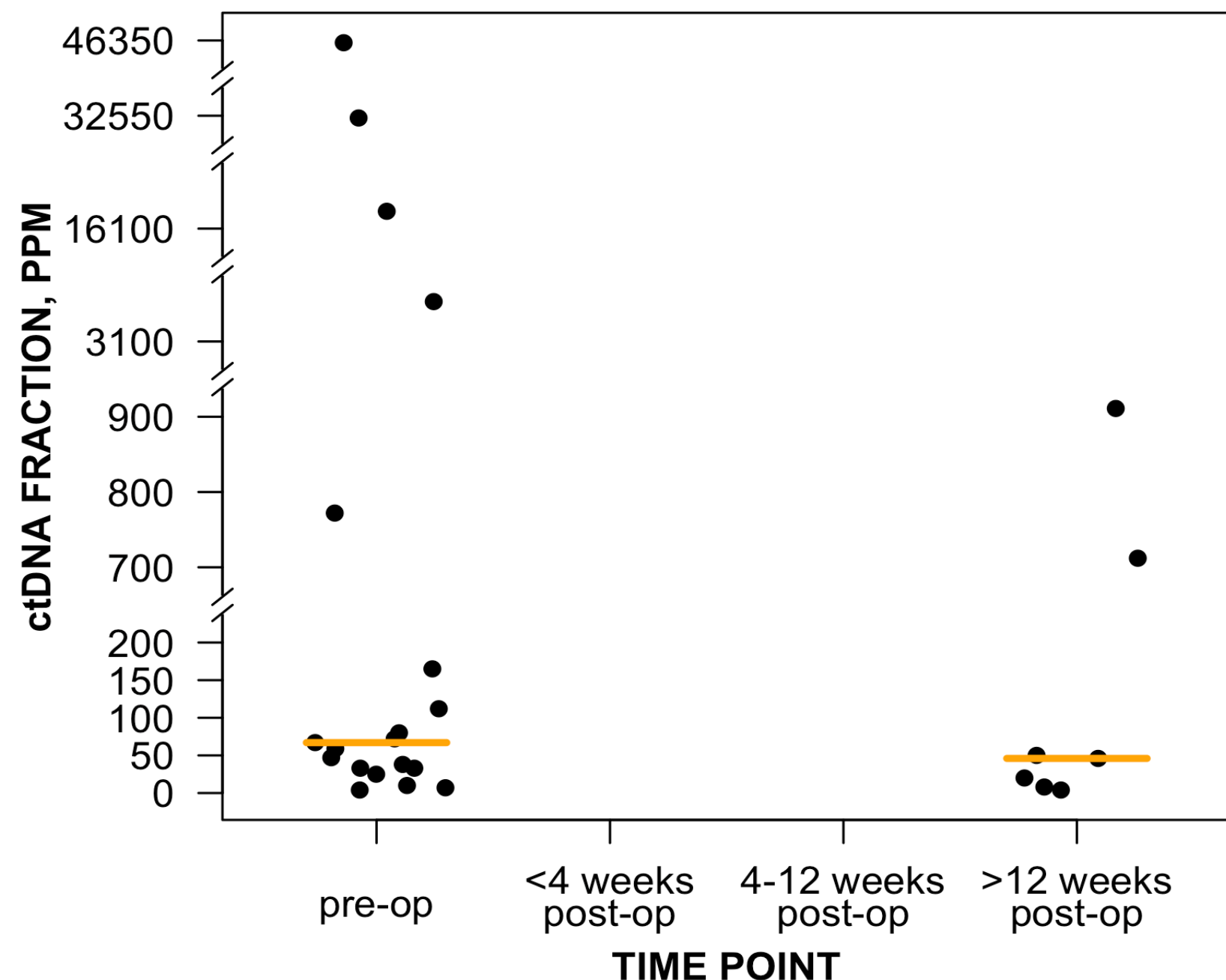


Fig 3. ctDNA Levels Among MRD (+) Tests by Perioperative Time Point.
Each black marker represents an individual ctDNA (+) test.
Orange lines indicate the median ctDNA level at that time point.
No ctDNA (+) results were observed within 12 weeks post-op.

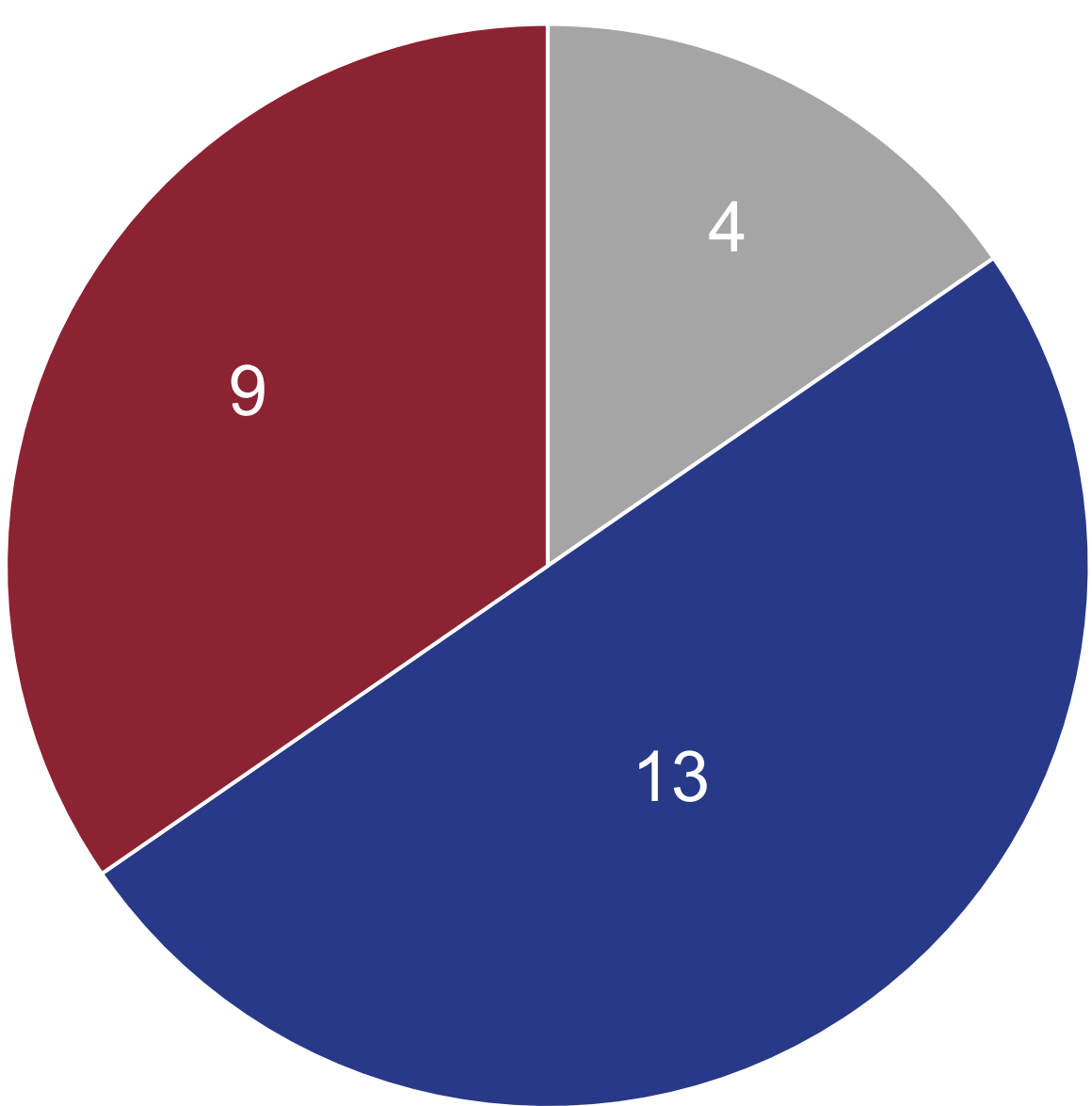


Fig 4. Distribution of ctDNA-Positive Tests Across ctDNA Level Categories

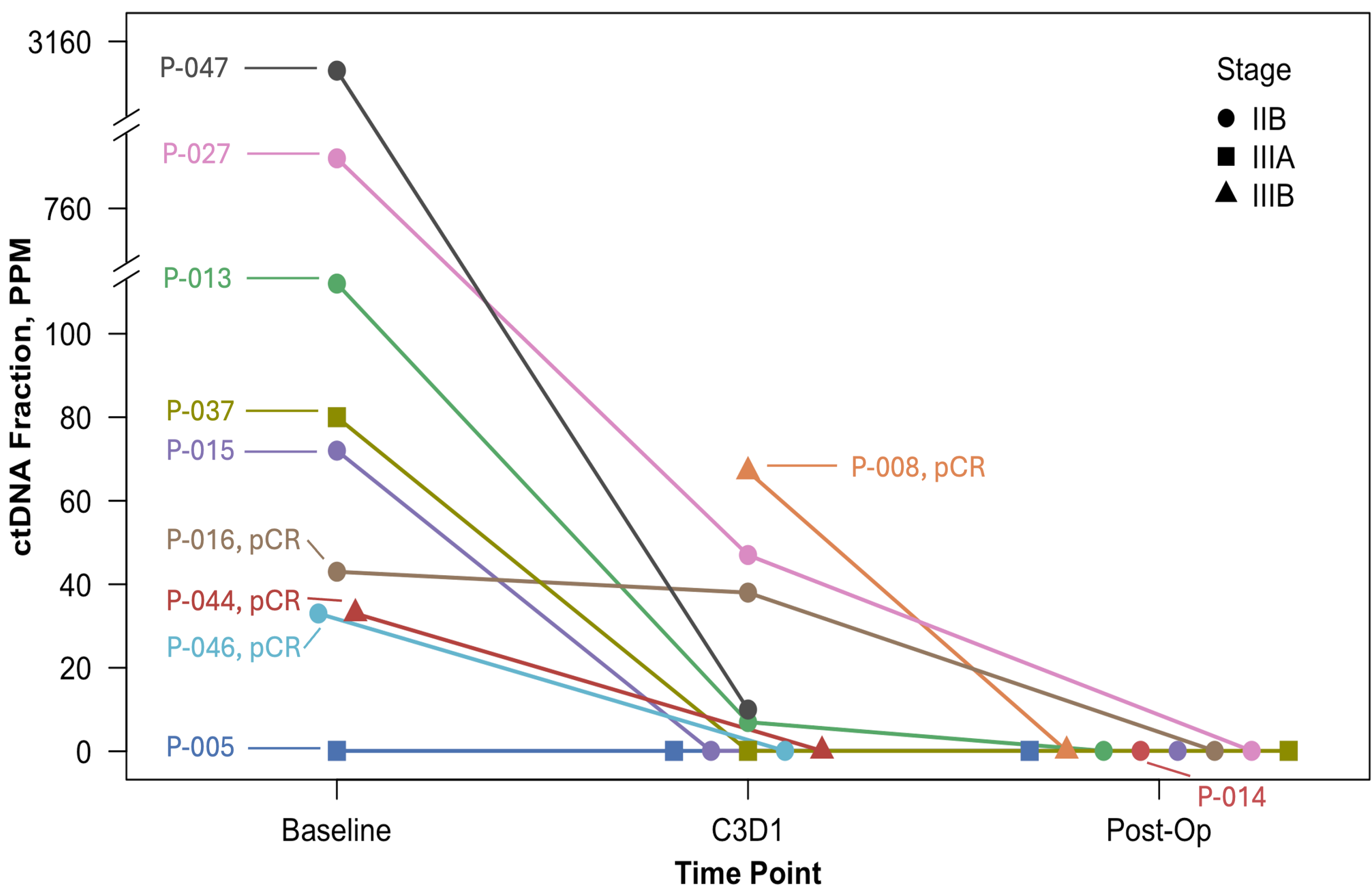


Fig 5. Cohort B ctDNA fraction per patient over time. PathCR rate was 4/11 (36.7%) patients who had surgery at the June 2026 cutoff

Table 2. Cohort B Disease, Treatment, and ctDNA Fraction Summary

ID	Clinical Stage/ Histology	Neo-Adj Tx (Cycles)	Baseline MRD, ppm	C3D1 MRD, ppm	Post-Op MRD, ppm	pCR	Post-Op Tx Regimen
P-005	IIIA/adenocA	carbo/pem/nivo (3)	0	0	0	N	nivo
P-008	IIIB/adenocSq	carbo/gem/nivo (2)	N/A*	67	0	Y	nivo
P-013	IIIB/adenocA	cis/pem/pembro (4)	112	7	0	N	pembro
P-014	IIIB/adenocA	cis/pem/nivo (3)	N/A*	N/A*	0	N	nivo
P-015	IIIB/adenocA	carbo/pem/pembro (4)	72	ND	0	N	pembro
P-016	IIIB/SCCa	cis/gem/pembro (4)	4†	38	0	Y	none
P-027	IIIB/adenocA	cis/pem/pembro (4)	772	47	0	N	durva
P-037	IIIA/adenocA	carbo/pem/nivo (3)	80	0	0	N	nivo
P-044	IIIB/adenocA	carbo/pem/pembro (3)	33	0	UNK‡	Y§	none§
P-046	IIIB/adenocA	carbo/pem/nivo (4)	33	0	UNK‡	Y§	none§
P-047	IIIB/adenocA	carbo/pem/pembro (3)	3153	10	UNK‡	N§	pembro§

*Missing time point, †Baseline is C2D8, ‡Unknown at 6/2026 cutoff, §Known after 6/2026 cutoff

DISCUSSION AND CONCLUSION

Key Findings

- Tumor-informed ctDNA MRD testing was feasible in the perioperative setting
- ctDNA MRD was not detected in patients with stage I disease in this cohort
- Serial ctDNA testing enabled assessment of perioperative changes in MRD levels
- In this small cohort, ctDNA levels decreased or cleared during the perioperative period
- ctDNA MRD detection was more frequent in patients with higher-stage disease

Future Direction for Research

- Larger cohorts are needed to better understand the clinical validity of MRD detection

REFERENCES & ACKNOWLEDGEMENTS

References

- ¹Abbosh, C., Frankell, A.M., Harrison, T. *et al.* Tracking early lung cancer metastatic dissemination in TRACERx using ctDNA. *Nature* **616**, 553–562 (2023)
- ²Created using draw.io

Support

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