

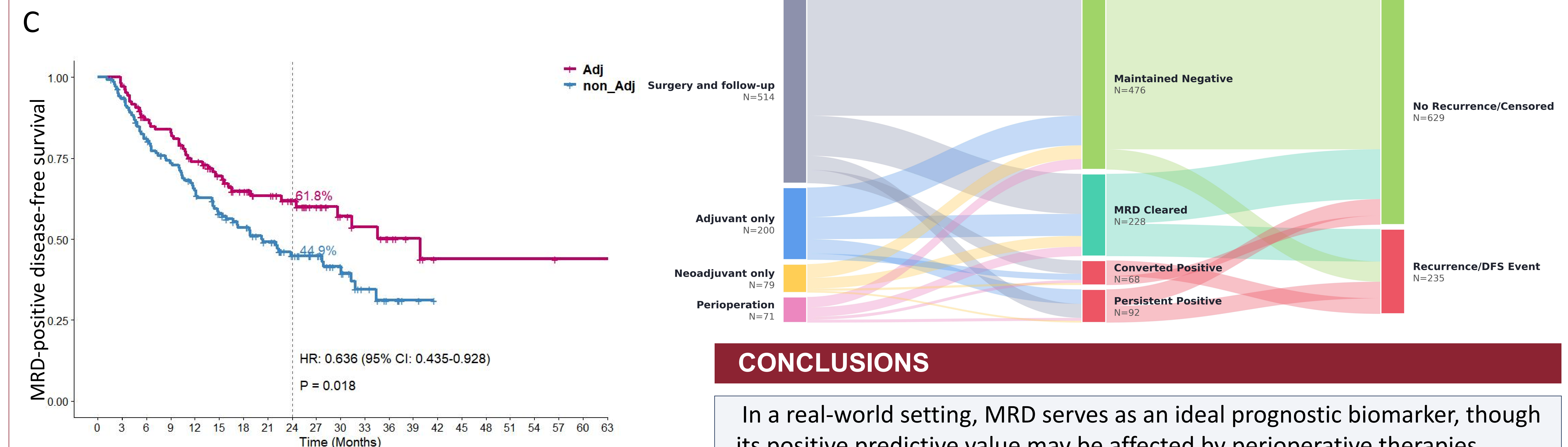
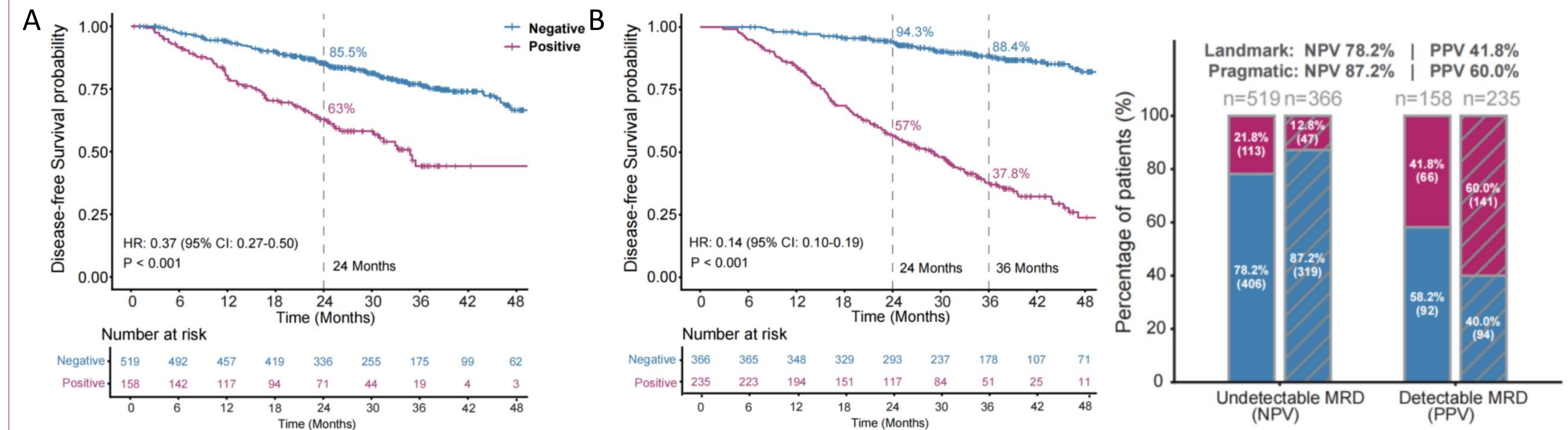
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Numerous clinical trials have established molecular residual disease (MRD) as a robust prognostic biomarker following lung cancer. However, the performance in real-world, whether it can be a predictive factor for adjuvant therapy, and the clinical benefit of MRD-guided interventions remain underexplored.

It is a real-world observational study since January 2018 (The NOTICE study, NCT04976296). We analysed 3,419 peripheral blood ctDNA-MRD samples from a real-world cohort of 864 patients (pts). Inclusion criteria comprised: (1) The 8th edition TNM for stage I-IIIa; (2) complete (R0) resection. Landmark MRD was defined as testing conducted 3 to 10 weeks post-operatively, prior to any adjuvant therapy. Pragmatic MRD defined as 2 times MRD detecting, interval at least 10 weeks. MP-DFS (MRD-positive disease-free survival) was defined as the interval from the first positive MRD detection to disease progression.

- The median follow-up was 37.3 months as of April 30th, 2026. 427 patients (49.4%) used a tumor-informed personalized panel (>500 loci), 305 (35.3%) used a tumor-informed fixed panel, and 132 (15.3%) used a tumor-agnostic fixed panel.
- 677 (78.4%) had evaluable landmark MRD results, and 601 (69.6%) underwent Pragmatic MRD Monitoring.
- Among the 350 patients who received perioperative therapy, 62 (17.7%) received chemotherapy alone, 151 (43.1%) received targeted therapy ± chemotherapy, and 137 (39.1%) received immunotherapy ± chemotherapy
- A total of 235 patients (27.2%) experienced disease events, and the 3-year disease-free survival (DFS) for the overall cohort was 67.9%

- A. Landmark MRD-negative patients had superior DFS compared with positive (HR = 0.37, 95% CI: 0.27–0.50), with a NPV of 78.2%
- B. Under pragmatic MRD monitoring, (HR = 0.14, 95% CI: 0.099–0.194), with an NPV of 87.2%. .
- C. For pragmatic MRD-positive pts, AT significantly improved the 2-year MP-DFS compared to observation (61.8% vs 44.9%; HR 0.636, P=0.018).



In a real-world setting, MRD serves as an ideal prognostic biomarker, though its positive predictive value may be affected by perioperative therapies. Adjuvant for longitudinal MRD positive pts could reduce the risk of recurrence.