

Real-world characteristics and outcomes of advanced NSCLC patients with EGFR exon 19 deletions or exon 21 mutations



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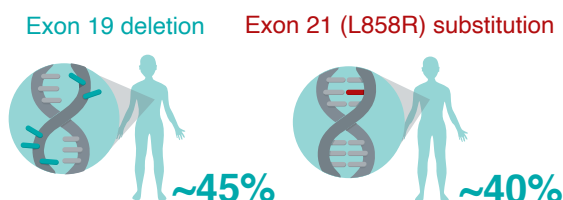


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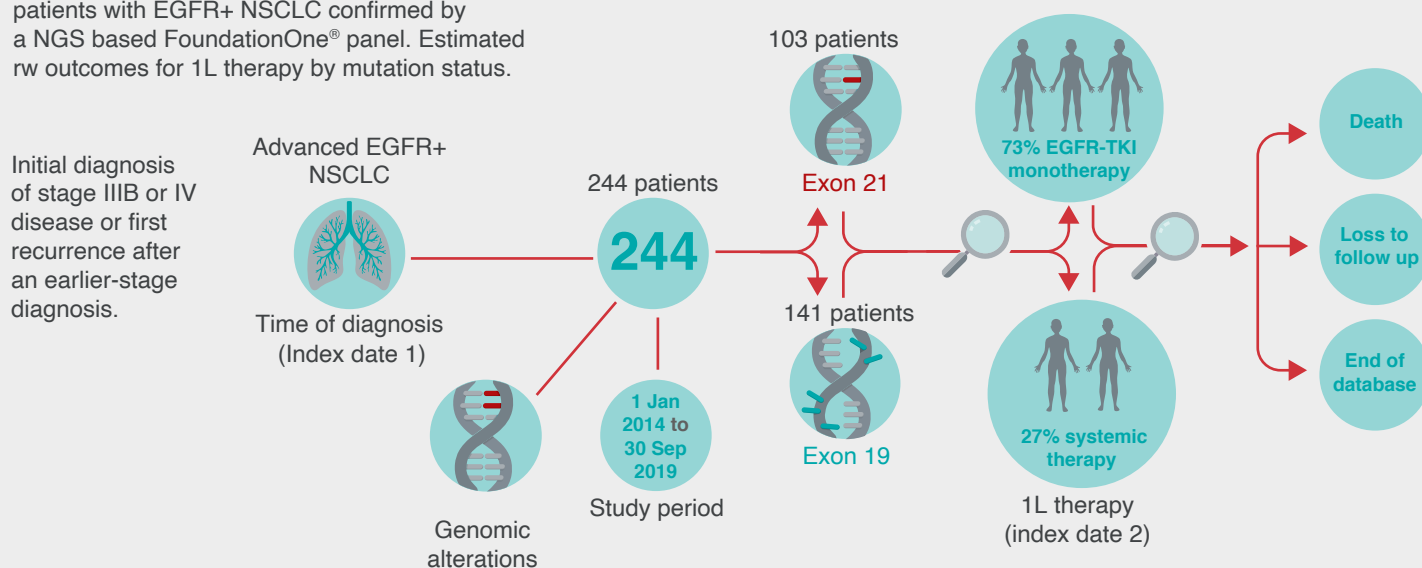
~90% of EGFR+ NSCLC is represented by **Exon 19 deletions** (~45%) and the **exon 21 (L858R) substitution** (~40%).



Clinical studies comparing EGFR-TKI monotherapy with chemotherapy show greater PFS and OS benefit from EGFR-TKI monotherapy in patients with an exon 19 vs. exon 21 mutation.

Method

Retrospective cohort study using a de-identified FH-FMI NSCLC clinicogenomic database of US patients with EGFR+ NSCLC confirmed by a NGS based FoundationOne® panel. Estimated rw outcomes for 1L therapy by mutation status.



Results

Overall study population: unadjusted median rwPFS = 10.4 months.

Exon 19 del patients: median rwPFS = **10.6 months**
Exon 21 (L858R) patients: median rwPFS = **8.1 months**.
HR: **1.72** [95% CI: 1.17–2.52]; $p = 0.006$).

Patients treated with **1L EGFR-TKI monotherapy**:
Exon 19 del patients: unadjusted rwPFS = **11.8 months**
Exon 21 (L858R) patients: unadjusted rwPFS = **10.8 months**
HR: **1.62** [95% CI: 1.03–2.56]; $p = 0.036$).

Although the unadjusted median OS was 12.3 months longer for patients with **exon 19** deletion mutations (37.4 months) than for patients with **exon 21** (L858R) mutations (25.1 months), the difference did not achieve statistical significance (HR: 1.47 [95% CI: 0.96–2.25]; $p = 0.074$).

Conclusion

In a real-world cohort of US patients with advanced EGFR+ NSCLC, exon 19 deletion mutations conferred a prognostic advantage over exon 21 (L858R) mutations, with significantly better rwPFS.

Glossary:

1L: First line; EGFR: Epidermal Growth Factor Receptor; FH-FMI: Flatiron Health and Foundation Medicine; HR: Hazard ratio; NSCLC: Non-small-cell lung cancer; OS: Overall survival; PFS: Progression-free survival; rw: Real world; TKI: Tyrosine kinase inhibitor