



Salvage surgery for advanced non-small cell lung cancer after inductiontherapy with selective RET inhibitors: safety and feasibility

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IASLC 2026 World
Conference on Lung Cancer

SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

Non-small cell lung cancer(NSCLC) harboring the rearranged during transfection(RET) gene fusion mutation was rare with poor prognosis. Even though selective RET inhibitors have recently changed the paradigm for RET fusion-positive NSCLC, novel therapeutic strategies are still needed to overcome drug resistance and improve the prognosis. Therefore, here we reported our novel treatment modality by combining salvage surgery with induction therapy of selective RET inhibitors.

METHODS

Design:

We retrospectively included advanced RET fusion-positive NSCLC patients who received salvage surgery after induction therapy of selective RET inhibitors. Both clinical and pathological characteristics of the included patients were analyzed. Survival analysis was performed with Kaplan-Meier analysis for both progression-free survival(PFS) and overall survival(OS).

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- RET fusion-positive NSCLC was rare with poor prognosis. Salvage surgery after induction therapy of selective RET inhibitors seemed to be a feasible and effective treatment strategy for advanced NSCLC with RET fusion mutation.

Future Direction for Research

- Well-conducted, multicentered, prospective randomized controlled trials are encouraged to validate our novel therapeutic strategies for locally advanced or advanced RET fusion-positive NSCLC.

REFERENCES & ACKNOWLEDGEMENTS

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Acknowledgements: We thank sincerely for the supports from staffs of BeOne Medicines for presenting our work in the WCLC2026 successfully.

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RESULTS

From January 2022 to June 2025, a total of 17 patients who underwent induction therapy of selective RET inhibitors followed by salvage surgery in our center were included for analysis.

The mean age of the patients were 42.3 years old and 15 patients(88.2%) were at advanced stage. Th included patients received selective RET inhibitors as the first-line or second line treatment for a mean time of 12 months(3 months to 34 months).

All patients received salvage surgery and recovered uneventfully. There was no -30-day mortality. Eight patients(47.1%) achieved pathological complete response while 13 patients(76.5%) were major pathological response.

After a median follow-up time of 26 months, the 3-year PFS and OS rates of these patients after salvage surgery were 75% and 100%, respectively.

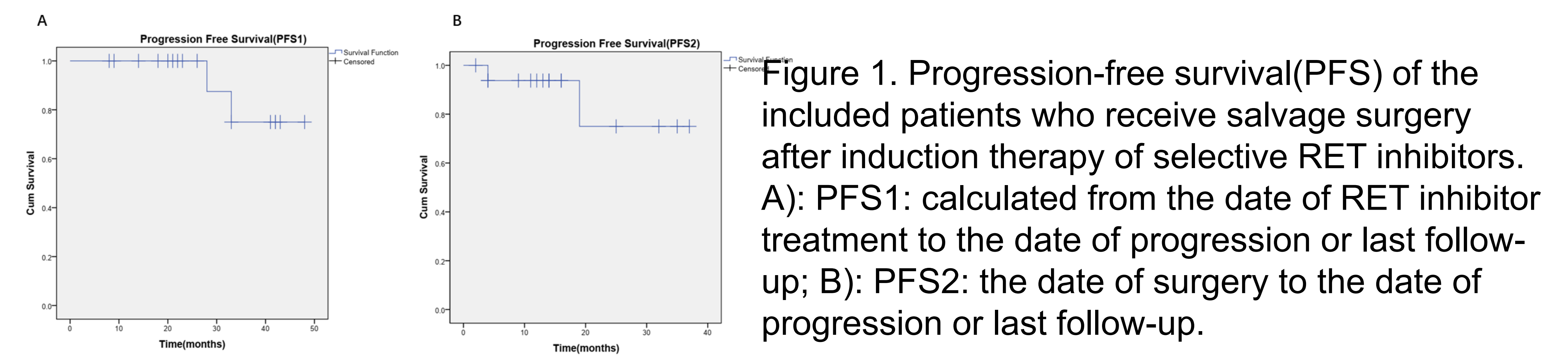


Figure 1. Progression-free survival(PFS) of the included patients who receive salvage surgery after induction therapy of selective RET inhibitors. A): PFS1: calculated from the date of RET inhibitor treatment to the date of progression or last follow-up; B): PFS2: the date of surgery to the date of progression or last follow-up.

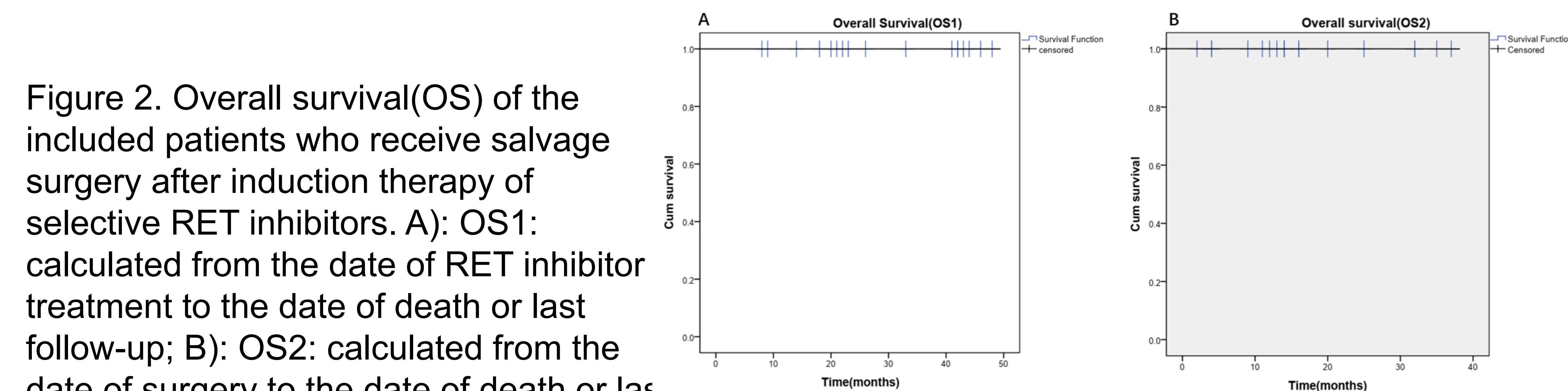


Figure 2. Overall survival(OS) of the included patients who receive salvage surgery after induction therapy of selective RET inhibitors. A): OS1: calculated from the date of RET inhibitor treatment to the date of death or last follow-up; B): OS2: calculated from the date of surgery to the date of death or last follow-up.