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To evaluate the clinical effect of equivalent dose hypofractionated radiotherapy in the treatment of unresectable stage III NSCLC

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INTRODUCTION

To retrospectively analyze the safety, efficacy and prognosis of equivalent dose hypofractionated intensity-modulated radiotherapy (IMRT) combined with concurrent chemotherapy followed by immunotherapy in the treatment of unresectable stage III non-small cell lung cancer (NSCLC) in our center.

METHODS

Study design:

Single-center retrospective analysis (Aug 2019-Aug 2022) including 46 patients with newly diagnosed, unresectable stage III NSCLC (AJCC 8th edition), not suitable for SBRT; cT4 with esophageal invasion excluded.

Radiotherapy:

Hypofractionated schedule: 3 Gy/fraction, total dose 45–69 Gy in 15–23 fractions.

DISCUSSION AND CONCLUSION

- Hypofractionated equivalent radiotherapy with a single dose of 3Gy can achieve ideal benefit and survival rate in the treatment of unresectable stage III NSCLC, with acceptable toxicity.
- This mode can provide a treatment option for patients who cannot tolerate conventional fractionated long-term concurrent chemoradiotherapy.

REFERENCES & ACKNOWLEDGEMENTS

Contributors:

XM, ZL and ZXC designed the study, conducted the statistical analysis and interpreted the results. MX, FXR, LZ and CS collected the data. XM drafted the manuscript.

References:



RESULTS

Outcomes:

- The median survival time was 28.7 months (12.3-68.4 months)
- OS: 95.7%, 76.1%, 54.3%
- PFS: 77.1%, 52.3%, 38.2%
- Tumour control (local control): 91.3%
- Regional control rates: 95.7%, 87.0%, 82.6%
- Distant metastasis-free survival rates: 76.1%, 52.2%, 39.1%

Prognostic factor:

- Radiotherapy dose was an independent prognostic factor for both OS and PFS (univariate and multivariate analyses).

Radiation-induced lung injury (RILI):

- Acute grade 1–2: 4 patients
- Late grade 1–2: 2 patients; late grade 3: 2 patients (within 3 months)
- No grade 4 RILI observed

Dosimetric comparison:

- No significant difference in bilateral lung V5–V30 between the 3Gy/fraction and 2Gy/fraction groups.

