OUTCOMES IN LONG-TERM SURVIVORS TREATED WITH STEREO-TACTIC CRANIAL RADIOTHERAPY FOR BRAIN METASTASES

Paul Windisch[1,2], Robert Förster[1,2], Daniel Zwahlen[2], Christina Schröder[1,2]

[1]Inselspital, Bern University Hospital, University of Bern, Department of Radiation Oncology, Bern, Switzerland; [2]Cantonal Hospital Winterthur, Department of Radiation Oncology, Winterthur, Switzerland

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Purpose

- To evaluate clinical outcomes in long-term survivors treated with stereotactic cranial radiotherapy (SRT) for brain metastases

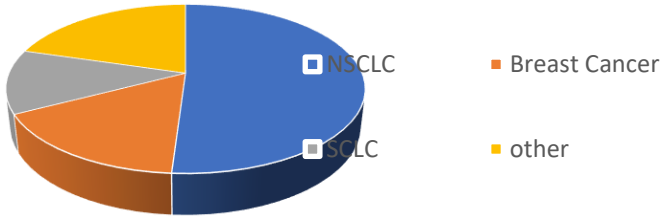
Methods

- Retrospective review of patients who received cranial radiotherapy for brain metastases between 2018 and 2024
- Patients were included if radiological follow-up exceeded 104 weeks from first SRT
- Assessment of treatment details, target characteristics, and patterns of failure or salvage therapy

Results

Patient cohort

- **49 patients** (30 female, 19 male)
- Median age at first treatment - 64 years



Radiotherapy Overview

- 124 RT courses
- 232 brain metastases treated
  - 81% intact lesions
- Median courses/patient: 2 (1–10)
- Median follow-up: 31.3 months (24-100)

Radiation Necrosis

- 9.3% of all lesions (n = 20), 18 patients
  - Cavities:33.3 %; Intact:5.3 %
  - Eight RN had received in-field re-irradiation
- Median time to RN: 13 months (1-55)

Failure Patterns

- In-field failure: 18.3% of SRT-treated targets
  - 70.0% -> re-irradiation
  - Median time to in-field recurrence: 14 months (2-85)
- Out-of-field cranial failure: 45% of localized treatments
- No cranial failure: 18.4%

Overall Survival

- Median survival: 87 months (95% CI 79-95 months)

Conclusion

- Among long-term survivors with brain metastases treated using SRT, both local failure and RN remain significant risks.
- This highlights the ongoing challenge of balancing tumor control with treatment-related toxicity in this growing patient population.

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