

Outcomes of surgical salvage for local failures following stereotactic ablative radiotherapy (SABR)

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Background



- SABR is the recommended treatment for inoperable early stage NSCLC
- Comparative effectiveness research shows comparable outcomes following SABR and surgery for early stage NSCLC [Louie A, 2015]
- We are increasingly treating fitter patients with SABR, therefore early recognition and salvage of local recurrences is increasingly important
- Limited literature is available on salvage surgery following SABR (total 16 patients) [Chen JTO 2010, Neri JTO 2010, Allibhai Eur Resp J 2012]



Materials and methods



- The institutional databases at the VUmc and ErasmusMC were consulted to identify patients who underwent surgical salvage for local recurrences following SABR
- Individual surgeons at other Dutch centers were personally contacted to identify similar cases





- 17 patients who underwent a total of 21 resections were identified
 - 9 patients were treated for recurrence of early stage NSCLC
 - 8 patients were treated for recurrence of a lung metastasis
- 4 patients who were treated for a lung metastasis, each underwent 2 separate resections for separate local recurrences





- Median time from SABR to local recurrence was 15.6 months (range 6-48 months)
- All patients, except one, underwent a ¹⁸FDG-PET-scan which showed uptake suspicious for local recurrence
- Only 4 patients had a pathological confirmation of local recurrence before surgery





- Types of resection:
 - Lobectomy (N = 15)
 - Sleeve-lobectomy (N = 1)

(N = 1)

- Pneumonectomy (N = 1)
- Segment resection
- Wedge resection (N = 3)
- Intra-operative findings (scored by surgeons):
 - No adhesions (N = 9)Limited adhesions (N = 7)
 - Extensive adhesions (N = 5)





- 8 surgeries commenced as VATS 4 converted to thoracotomy
- 4 patients had complications (Dindo-Clavien classification):
 - 2 with grade 2 complications
 - 2 with persistent airway leakage treated with new thoracic tube (grade 3a complication)
- Median length of hospital stay: 7 days (range 4-15 days)
- 30-day mortality: 0%





- All patients had viable tumor cells in the resection specimen.
- 5 patients were upstaged:
 - N2-disease (N=3)
 - T3 tumor (N=1)
 - T4 tumor (N=1)
- All upstaged patients received adjuvant treatment
- Median follow-up after surgery: 40.6 months
- Median overall survival after surgery: 38 months
 - 1-year survival: 100%
 - 2-year survival: 80%









Conclusions



- Findings of the largest series to date of surgical salvage for local recurrences:
 - Few grade ≥3 complications (2 patients)
 - 30-day mortality of 0%
- Our results **suggest salvage surgery can be safely performed** in selected patients with a local recurrences following SABR
- Only 4/17 patients had pathological confirmation pre-surgery
- Therefore better compliance with ESMO consensus guidelines for a pre-treatment biopsy is desirable [Vansteenkiste J, Ann Oncol 2014]
- As clinical experience is still limited, we encourage other centers to report their experience with salvage surgery





Thank you for your attention

