173P Stereotactic radiotherapy concurrent to immune or targeted therapy for oligometastatic NSCLC: Clinical scenarios affecting survival

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Background: Oligometastatic NSCLC pts. may benefit from a more aggressive treatment approach. However, the concept of "oligometastasis" is complex: e.g. limited progression or resistance of disease to systemic treatment. This study evaluated the outcome of stereotactic radiotherapy (SRT) to oligoprogressive or oligoresistant NSCLC in pts. receiving concurrent immuno- or targeted therapy.

Methods: The international register study (TOaSTT) collected data on metastatic NSCLC pts. receiving SRT concurrent ($\leq$30d) to immuno- or targeted therapy. Pts. were grouped in: SRT of ≤ 5 metastases without additional metastases (oligoprogression), SRT of ≤ 5 progressive metastases with controlled disease of all other metastases (oligopersistent), and SRT of ≤ 5 metastases with otherwise mixed response/ uncontrolled disease. OS, PFS, LC and time to systemic therapy-switch after SRT were analyzed using Kaplan-Meier survival curves and log rank testing. Toxicity was scored using CTCAE.

Results: SRT of 192 lesions in 108 pts. was performed between 7/2009 - 5/2018. Median age was 63y (range 33-80). Driver mutations were: EGFR 41%, ALK 14%, other 21%, unknown/no 24%. Median FU was 18.7 (range 1-102) mo. 90% were ECOG 0-1. Median 1 (range 1-5) metastasis was treated. Targeted therapies were started before SRT in 69%, during SRT in 8%, and after SRT in 23%. 60% received an ALK- or EGFR-TKI, 31% PD-L1/PD-1 inhibitors, 8% bevacizumab. Oligoprogressive and oligopersistent pts showed improved OS compared to advanced metastatic disease ($p = 0.008$) (Fig.1). PFS was best in oligoprogressive patients; median 20.1 vs 7 and 4.4 mo. ($p = 0.006$). LC was median 21.0, 12.0 und 9.0mo: no sign. difference between groups. After 1y, 86%, 47% and 39% continued the same immuno- or targeted therapy as before SRT. Severe acute toxicity were observed in 7%, late toxicity in 4%.

Conclusions: An excellent survival with limited toxicity was observed when definitive SRT to a limited number of metastases was combined with targeted- or immunotherapy in oligoprogressive and oligopersistent NSCLC patients. SRT of metastatic sites allowed continuation of targeted-, or immunotherapy in many patients. These observations need to be further evaluated in prospective trials.

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