

Abstracts

P08.15. RELEVANCE OF GAMMA KNIFE RADIOSURGERY ALONE FOR THE TREATMENT OF NON-SMALL CELL LUNG CANCER BRAIN METASTASES

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BACKGROUND AND PURPOSE: Stereotactic radiosurgery (SRS) followed by close follow-up is becoming a popular strategy for the management of brain metastases (BM) since cancer patients live longer and late adverse effects of whole brain radiotherapy (WBRT) are increasingly reported. The authors report their experience in consecutively treated patients with limited brain metastases from non-small cell lung cancer (NSCLC), who underwent SRS in isolation followed by a close follow-up. **METHODS:** This study is

the retrospective analysis of prospectively collected data. We included 89 consecutive patients (80 men and 19 women; mean age 59.7 years) with a KPS score of 60 or greater at BM diagnosis, who underwent Gamma Knife SRS for 1-4 metastases, at Lille University Hospital between January 2004 and December 2010. The mean radiation dose was 23.41 Gy (range 18-26 Gy) and the mean tumor volume was 2.47 cm³ (range 0.3-6.7 cm³). After treatment, clinical and radiological (MRI) monitoring was scheduled at 2, 4, 8 and 12 months in the first year and at 4-month intervals thereafter. **RESULTS:** Overall survival was 70.8% at 1 year and 50% at 2 years. The actuarial local control rate was 91.5% at 1 year and 85.5% at 2 years. Ten of 89 patients experienced a local failure, which required a salvage treatment. The distant brain control rate was 79.2% at 1 year, and 67.1% at 2 years. A total of 25 patients developed new brain metastases, 10 patients were treated with a new radiosurgical procedure, 12 underwent a WBRT while 3 patients developed a leptomeningeal disease. We reported an overall complication rate of 10.1% per patient and 7.8% per treated tumor; all complications were classified grade 1 or 2. **CONCLUSION:** In patients with limited brain metastases from NSCLC, SRS is an effective treatment associated with high local control rate with low morbidity. When performed in isolation, close follow-up is mandatory and radiosurgery can be renewed as salvage treatment for distant brain progression, limiting the use of WBRT.