



**CO-01. Hypofractionated  
stereotactic radiotherapy  
(HFSRT) for 50 brain metastases:  
Institutional experience**

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## **CO-01. Hypofractionated stereotactic radiotherapy (HFSRT) for 50 brain metastases: Institutional experience**

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**Background:** Stereotactic radiosurgery (SRS) is a therapeutic tool to treat brain metastases that is increasingly being used as a primary treatment modality in an attempt to prevent neurocognitive dysfunctions induced by whole-brain radiotherapy (WBRT). However, single-dose radiosurgery also seems inadequate for treating large brain metastases or lesions close to critical structures in order to prevent adverse side effects. HFSRT appears a treatment option. Optimal dose and fractionation have yet to be established.

**Purpose:** To analyze our initial experience in treating brain metastases with HFSRT.

**Material and methods:** Fifty brain metastases > 3 cm or located in critical areas were treated from October 2011 to December 2016 with HFSRT. Three fractionations were used: 10 x 4 Gy (n = 40), 5 x 6 Gy (n = 4), 5 x 7 Gy (n = 6). Contouring was based on MRI and CT fused images. We used a noninvasive frame-based mask, 6D coach, ExacTrac image guided system and IMRT or 3D planning.

**Results:** Based on histology, there were 24 breast, 13 lung and 13 other cancer sites. After a median follow-up of 6.4 months (1,4-21,7) 48 metastases (96%) achieved local control and 2 (4%) were considered radionecrosis. A total of 9 (17%) patients developed distant brain metastases after a median of 3 months. Six of them were treated with WBRT and the remaining 3 with local radiotherapy.

Twelve patients (24%) died during follow-up. Any patient developed > grade 2 toxicity related to radiation.

**Conclusions:** With lack of longer follow-up, our experience with large and critical brain metastases showed that HFSRT is an excellent alternative with very good local control and tolerance.

