

## Effectiveness of single fraction radiotherapy (8Gy) in Metastatic spinal cord compression

### Introduction

Hypofractionated radiotherapy (RT) (30Gy/10 fraction or 20Gy/5 fraction) is widely used for Metastatic spinal cord compression (MSCC) with or without surgery. Randomized studies comparing multifraction RT (MFRT) and single fraction of RT (SFRT) found no difference in outcomes of motor response or overall survival. Despite these results, there is still some reluctance to use SFRT for MSCC.

The aim of our study was to evaluate the motor outcome of SFRT in patient with MSCC

### Methods:

This is a descriptive retrospective study involving 51 patients who were treated with SFRT (8 Gy/1 fraction) in combination with high dose corticosteroidtherapy for MSCC between August 2017 and januar 2020 at radiotherapy department at the Abderrahman Mami Hospital in Ariana, Tunisia. No patient had surgery. Primary tumor and location of MSCC were analysed. Motor status was evaluated before and three weeks after RT.

### Results:

Solid tumor was the commonest primary tumor in 92% of cases. Hematologic tumors (myeloma) represented 8% of cases(4 patients). Motor dysfunction was observed in 84% of cases. Diagnosis was done by MRI in 43% of cases and CT scan in 57% of cases. An epiduritis was noted in 49% of cases. Compression involved the dorsal segment in 41% of cases, lumbar in 21% of cases, cervical in 10% of cases, cervico-dorsal in 10%, sacral in 4%, dorso-lumbar in 8% of cases and lumbo-sacral in 6% of cases.

Nine patients (18%) were not evaluated. The 3-week assessment revealed motor response in 79 % of cases and stability in 21% of cases. All patients with hematologic neoplasm had a motor response.

No difference in motor response according to the location of MSCC.

Fourteen patients (27.5%) required a 2nd fraction of RT (4/6 or 8Gy / 1fraction).

### Conclusions

Our study showed an improvement of motor status in 79% of patient. This is particularly reassuring in that SFRT can be considered a convenient and viable option for patient and medical systems in a context of limited ressources in this patient group.

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