HUMANITAS
CANCER CENTER

Stereotactic Body Radiation Therapy for oligometastatic patients with ovarian cancer

C. Iftode, A. Tozzi, G. R. D'Agostino, P. Navarria, T. Comito, C. Franzese, A. Ascolese, F. De Rose, D. Franceschini, M. Scorsetti

U.O. Radioterapia e radiochirurgia, Humanitas Clinical and Research Center, Rozzano (Mi)

HUMANITAS
CANCER CENTER

Introduction

REVIEW ARTICLE

Stereotactic Body Radiotherapy for Oligometastasis
Opportunities for Biology to Guide Clinical Management

Rohann J.M. Correa, MD, PhD, Joseph K. Salama, MD,†*
*Michael T. Milano, MD, PhD,‡ and David A. Palma, MD, MSc, PhD, FRCPC**

The Cancer Journal • Volume 22, Number 4, July/August 2016

Abstract: Oligometastasis refers to a state of limited metastatic disease burden, in which surgical or ablative treatment to all known visible metastases holds promise to extend survival or even effect cure. Stereotactic body radiotherapy is a form of radiation treatment capable of delivering a high biologically effective dose of radiation in a highly conformal manner, with a favorable toxicity profile. Enthusiasm for oligometastasis ablation, however, should be counterbalanced against the limited supporting evidence. It remains unknown to what extent (if any) ablation influences survival or quality of life. Rising clinical equipoise necessitates the completion of randomized controlled trials to assess this, several of which are underway. However, a lack of clear identification criteria or biomarkers to define the oligometastatic state hampers optimal patient selection.

This narrative review explores the evolutionary origins of oligometastasis, the steps of the metastatic process at which oligometastases may arise, and the biomolecular mediators of this state. It discusses clinical outcomes with treatment of oligometastases, ongoing trials, and areas of basic and translational research that may lead to novel biomarkers. These efforts should provide a clearer, biomolecular definition of oligometastatic disease and aid in the accurate selection of patients for ablative therapies.

THE CANCER JOURNAL
The Journal of Principles & Practice of Oncology

HUMANITAS
CANCER CENTER

Introduction

Stereotactic Body Radiosurgery for Pelvic Relapse of Gynecologic Malignancies

www.tcrt.org

Clinical management of pelvic relapses from gynecologic malignancies remains challenging. Bulky pelvic relapses often lead to symptomatic cancer-related complications and poor clinical outcomes. Options may be limited by prior surgical, chemotherapeutic, and radiation treatment. Stereotactic body radiosurgery is a novel treatment modality which allows high radiation dose delivery in a non-coplanar fashion with sub-millimeter precision utilizing a linear accelerator mounted on a robotic arm. This study details our clinical experience with stereotactic body radiosurgery for treatment of patients with pelvic relapses of gynecologic malignancies after prior pelvic radiation.

Technology in Cancer Research and Treatment
ISSN 1533-0346
Volume 8, Number 5, October 2009

Oncocase

Oligometastatic ovarian cancer successfully treated with stereotactic radiotherapy

S. Jeurissen, MD[1], S. Bral, MD, PhD[2], K. Vandecasteele, MD, PhD[3], G. De Meerleer, MD, PhD[3], H. Denys, MD, PhD[1]

A 53-year old woman presented with an ovarian cancer, FIGO stage IIIc, for which she received a (suboptimal) debulking. Chemotherapy was started, consisting of three-weekly carboplatin-paclitaxel. After four cycles, an interval-debulking was done, which revealed one positive lymph node (out of 21) located interaortocaval. Chemotherapy was resumed, until seven cycles. She had a complete remission, but after four years, she developed positive mediastinal and interaortocaval lymph nodes. She was treated with stereotactic radiotherapy, which resulted in resolution of the lesions and normalisation of the tumour marker. She has no signs of relapse after nearly two years.
This case illustrates that radiotherapy can be an important treatment option in selected patients with oligometastases.

Belgian Journal of Medical Oncology Volume 8, Issue 3, July 2014

HUMANITAS
CANCER CENTER

Purpose

The purpose of the study was to evaluate the role of stereotactic body radiotherapy (SBRT) in terms of LC, DFS and acute and late toxicity in patients with oligometastatic recurrent ovarian cancer

HUMANITAS
CANCER CENTER

Methods

- Between January 2011 and November 2015, 19 patients (31 lesions) with recurrent oligometastatic ovarian carcinoma of any histology underwent SBRT.

- Toxicity was scored using Radiation Therapy Oncology Group/European Organization for Research and Treatment of Cancer Scale.
- Tumor response was evaluated by CT/ PET, according to Response Evaluation Criteria in Solid Tumors.

HUMANITAS
CANCER CENTER

Methods

Patients' demographics and treatment characteristics			
Number of patients		19	
Number of lesions		31	
Treatment site			
Abdomino-pelvic LN		20	64,50%
Liver		8	25,80%
Lung		2	6,45%
Para vaginal mass		1	3,25%
SBRT prescrition dose			
Abdomino-pelvic LN	36-45 Gy /6 fr		
Liver	67.5- 75 Gy / 3 fr		
Lung	48 Gy / 4 fr		
Para vaginal mass	36 Gy/ 6 fr		

HUMANITAS
CANCER CENTER

Results

Median follow-up 74 months (25-166 mo).

None of the patients grade 3 /4 acute or late toxicity

HUMANITAS
CANCER CENTER

Results

At a median follow-up of 27 months (calculated at diagnosis of metastatic tumor) (range 6-65 mo) : 3 local relapses of 31 treated lesions.

1 yr LC 92.9%
2 yr LC 92.9%

Median PFS was 14 months
- 1 yr PFS of 64.2%
- 2 yr PFS of 24.5%

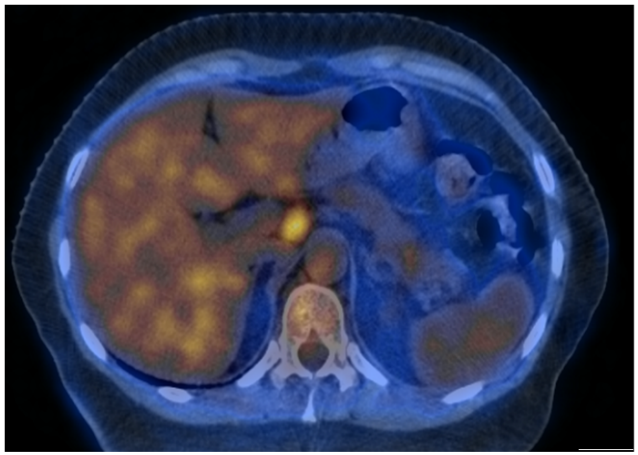
HUMANITAS
CANCER CENTER

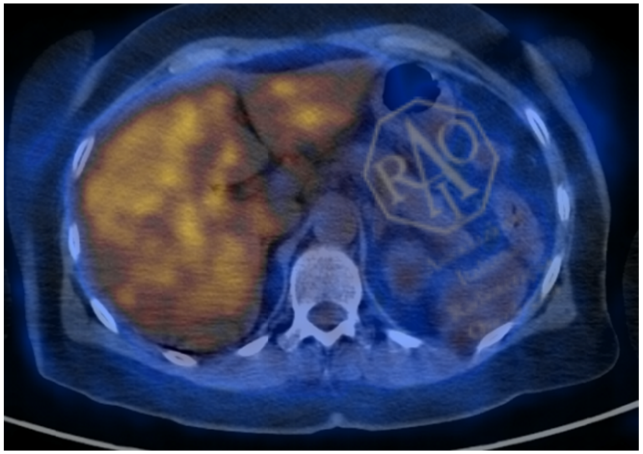
Results

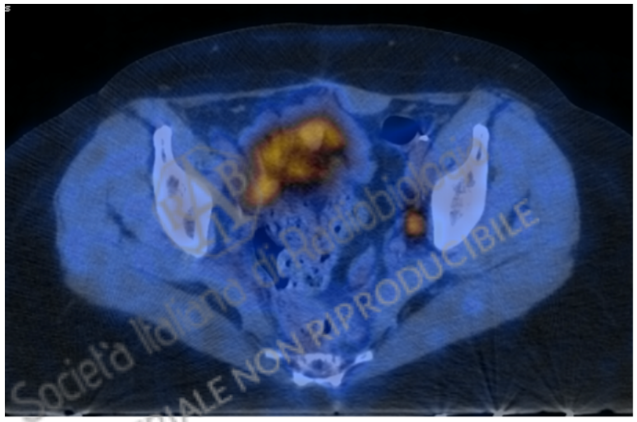
- complete radiologic response: 19 cases (61.3%)
- partial response/stable disease: 9 cases (29%)
- progressive disease: 3 cases (9.7%)

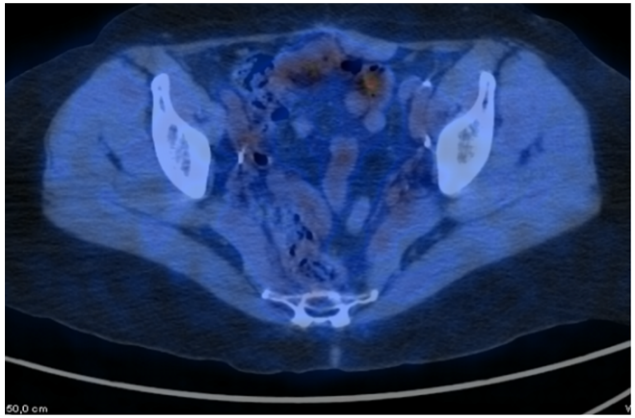
HUMANITAS
CANCER CENTER

Results









Examples of methabolic complete response of lymphnodes metastatic lesions (45 Gy/ 6 fr)

HUMANITAS
CANCER CENTER

Conclusion

- SBRT is a feasible and well tolerated treatment approach in oligo-metastatic ovarian patients, with satisfactory results in terms of LC and DFS.

- Further studies are warranted to verify the real impact of SBRT on overall outcome of this setting of patients

HUMANITAS
CANCER CENTER

Grazie per attenzione!