

Toxicity and clinical outcomes of abdominal stereotactic hypofractionated radiotherapy for non-surgical patients

Asso R. N.^{1,2}, Cury F.¹, Freeman C.¹, Kopek N.¹

¹ McGill University Health Centre, Montreal, QC, Canada. ² Albert Einstein Israelite Hospital, São Paulo, SP, Brazil.

Introduction

Abdominal radiotherapy is often considered, either consolidative or as a non-surgical alternative when resection is not possible. Stereotactic hypofractionated radiation therapy (SFRT) offers logistical advantages and an ease of integration within a multimodality treatment strategy that seeks to minimize delays and interruptions in systemic therapy. In addition, there is a potential radiobiological advantage with respect to overcoming relative radioresistance. Applying SFRT to abdominal tumors, however, could be limited by the tolerance of normal surrounding organs.

Objectives

The objective of this study is to analyze toxicity and clinical outcomes in patients treated with five fraction SFRT for non-surgical pancreatic tumours and retroperitoneal sarcomas.

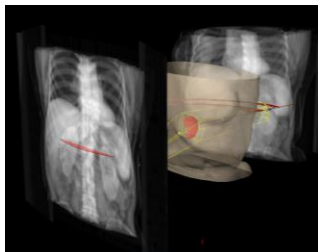


Figure 1. Planning using VMAT

Material and Methods

This is a single institution retrospective review of pancreatic and sarcoma patients treated with five fraction SFRT to doses between 25 to 30Gy. Cases treated with exclusively palliative intent and preoperative strategy were excluded.

Descriptive statistics were used to analyze demographic and disease characteristics. NCI Common Terminology Criteria for Adverse Events version 5.0 were used for toxicity grading. Kaplan-Meier method estimated the clinical outcomes.

Results

A total of 49 patients were included. The median age of the patients was 68 years (range: 19-93). The dose prescribed was 25-35Gy.

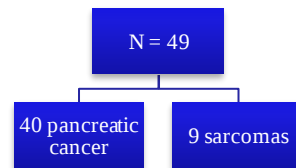
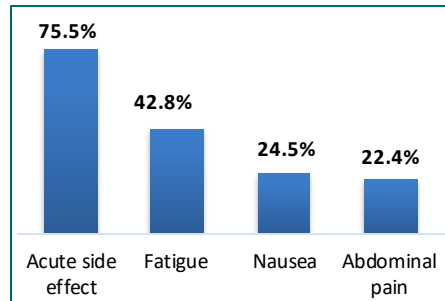


Figure 2. Total of patients



Among the 49 patients, 75.5% had acute side effects. All low grade, except for one case of grade 4, presenting colitis.

Chronic side effects were observed in 15 patients, abdominal pain being the most frequent. Bowel perforation (N=2) and cholangitis (N=3) were observed in the context of disease progression.

	LC	MFS	OS
6 months	63.7%	37.1%	59.4%
1 year	46%	23.6%	36%

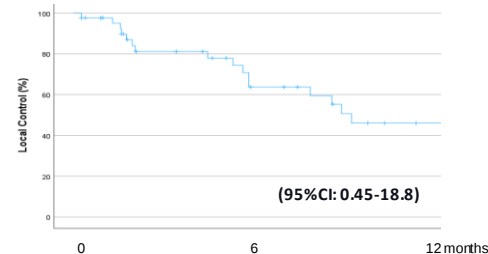


Figure 3. Local Control

At the time of analysis, 81.6% (N=40) of patients had died. Seven patients had no follow-up. The median OS was 9 months.

In multivariate analysis, distant metastases, dose, previous surgery and previous chemotherapy were not significant for any of the clinical outcomes.

Conclusion

SFRT in five fractions for abdominal tumors appears to be well tolerated with encouraging rates of local control in this cohort of non-surgical candidates.

Acknowledgments

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