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EXTRACRANIAL STEREOTACTIC RADIOTHERAPY IN THE TREATMENT OF LYMPH NODAL RECURRENCES: RESULTS FROM A DOSE ESCALATION TRIAL

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ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Extracranial stereotactic radiotherapy (ESRT) allows the irradiation of thoraco-abdomino-pelvic targets with high doses of irradiation in a single or a few sessions with extremely high precision.

ESRT has been tested in various settings with encouraging results in terms of local control as well toxicity

The studies published to date are characterized by small series and very different methods in terms of:

- dose
- fractionation
- techniques
- evaluation modalities.

To determine the maximum tolerated dose (MTD) of fractionated extracranial stereotactic radiotherapy (ESRT) to lymph nodal recurrences in different clinical settings

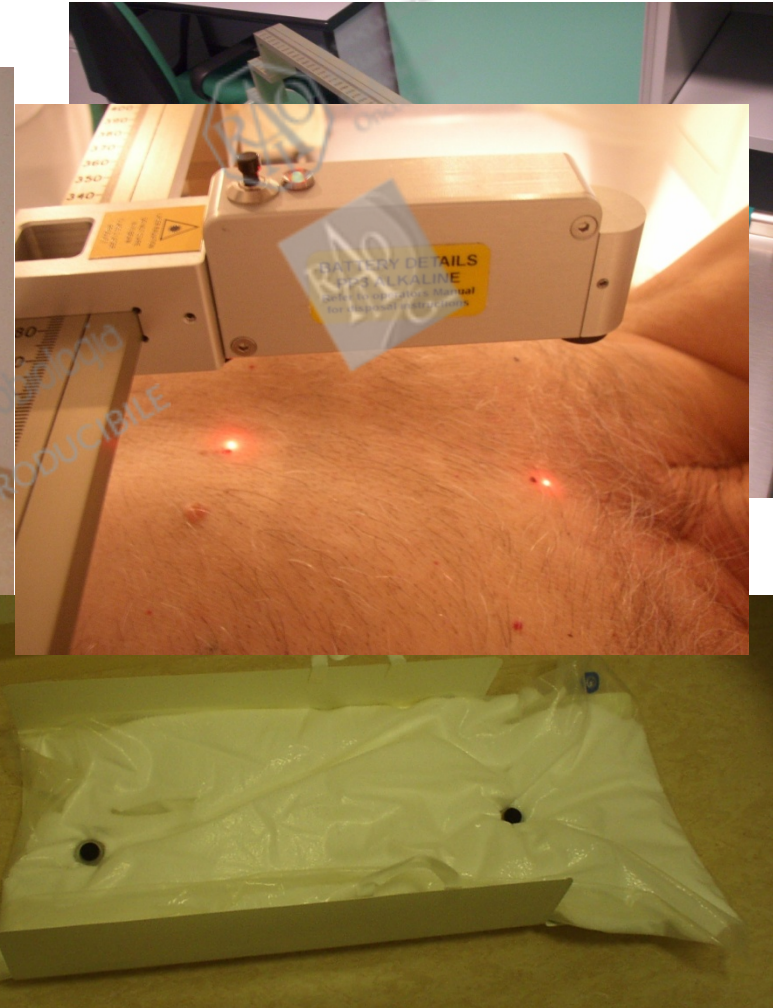
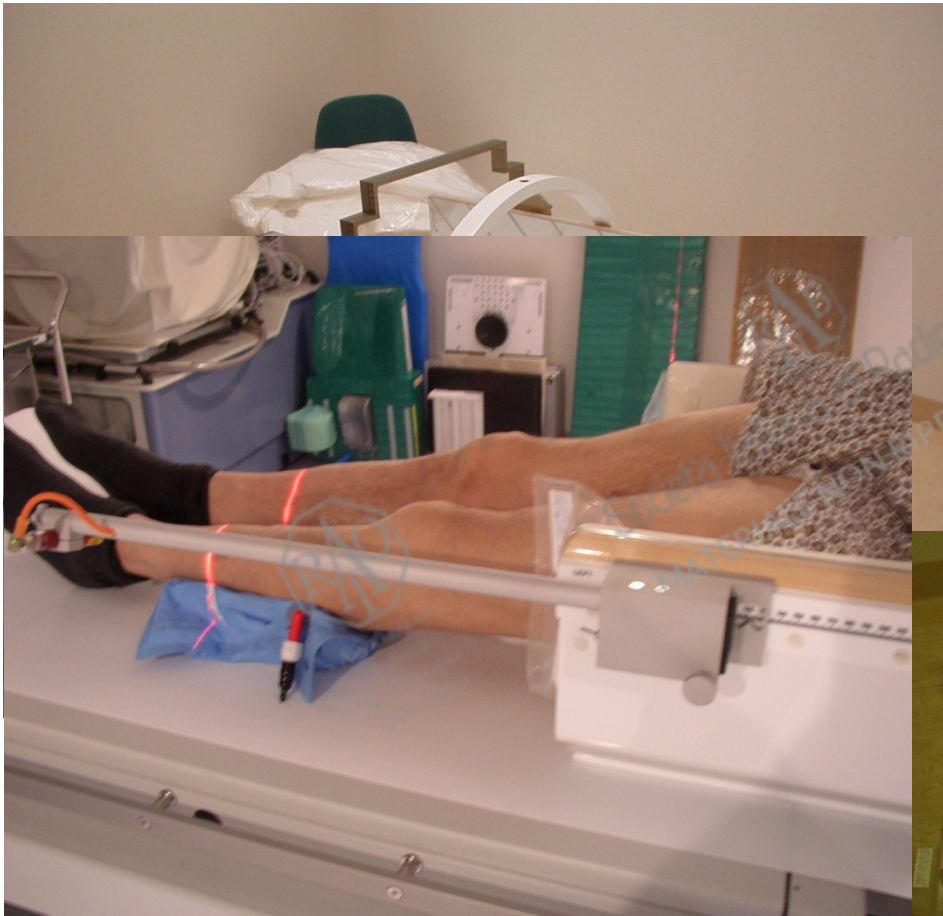


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MATERIALE NON RIPRODUCIBILE

Dose Escalation STereotactic RadiOtherapy 1

Level	Para-Mediastinal tumors or tumors near chest wall	Extra-thoracic tumors	Retreatment		ESRT-boost	ESRT-boost
			with prior radiotherapy dose precedente ≥ 60 Gy or retreatment of pancreatic or pelvic cancer	with prior radiotherapy < 60 Gy	(after RT dose ≤ 50 Gy)	(after RT dose > 50 Gy)
1	25 Gy	25 Gy	20 Gy	25 Gy	25 Gy	20 Gy
2	30 Gy	30 Gy	25 Gy	30 Gy	30 Gy	25 Gy
3	35 Gy	35 Gy	30 Gy	35 Gy	35 Gy	30 Gy
4	40 Gy	40 Gy	35 Gy	40 Gy		
5	45 Gy	45 Gy	40 Gy	45 Gy		
6	50 Gy	50 Gy	45 Gy	50 Gy		

StereoBody Frame (ELEKTA)



Organ Motion evaluation in all pts

PTV = CTV+5-10 mm (A-P e L-L)
CTV+5-15 mm (C-C)

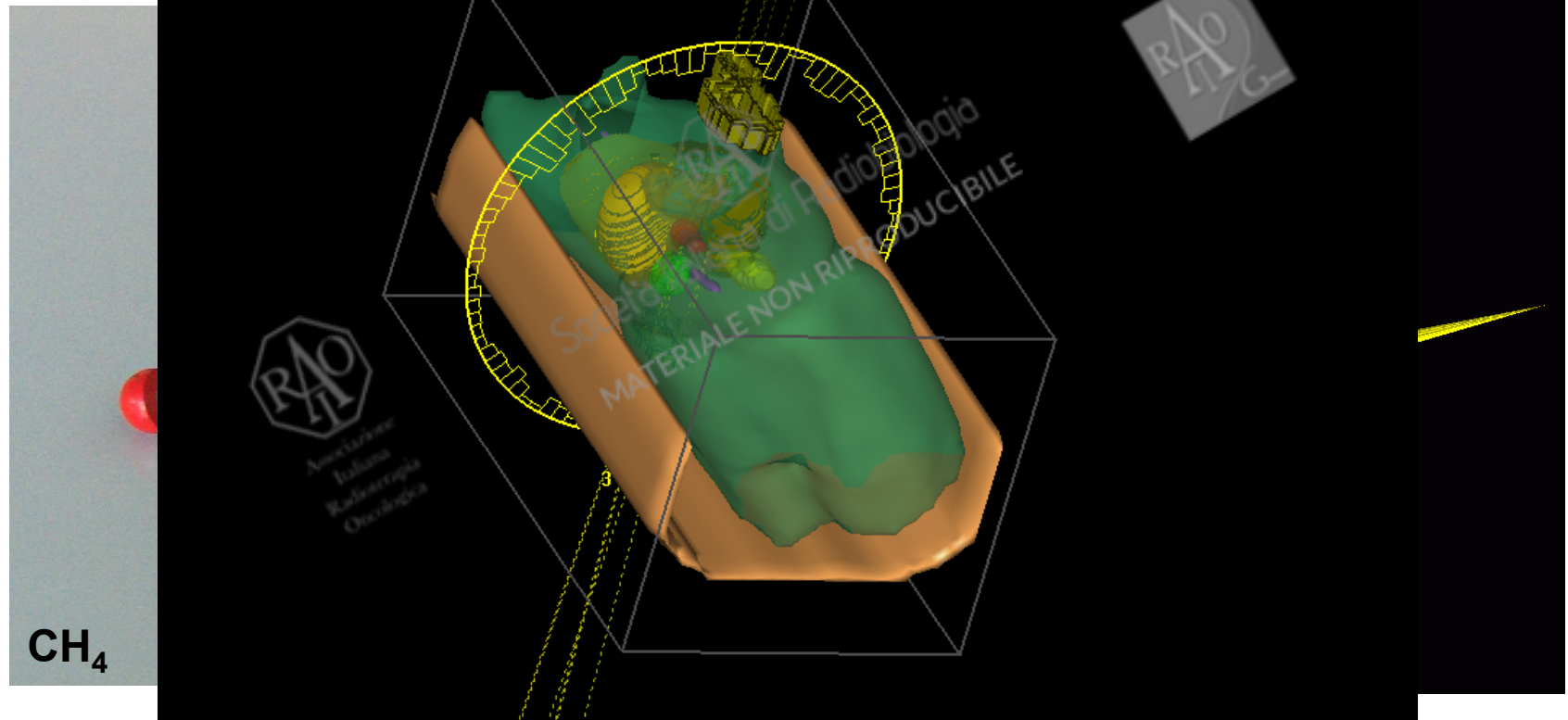


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Fields Set-up: tetrahedral static beam configuration: VMAT

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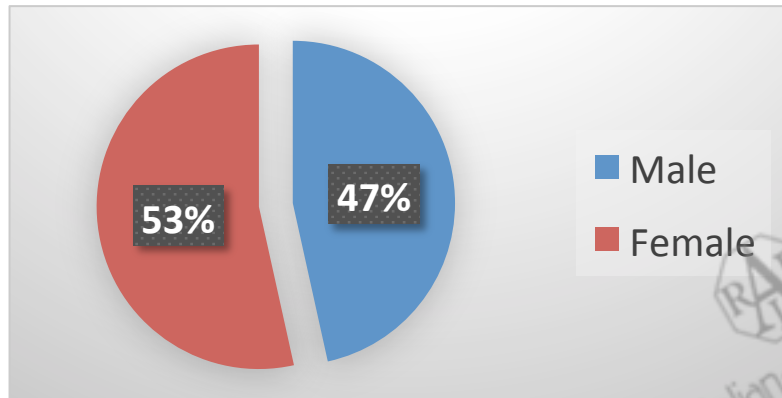
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Reference point: ICRU 62

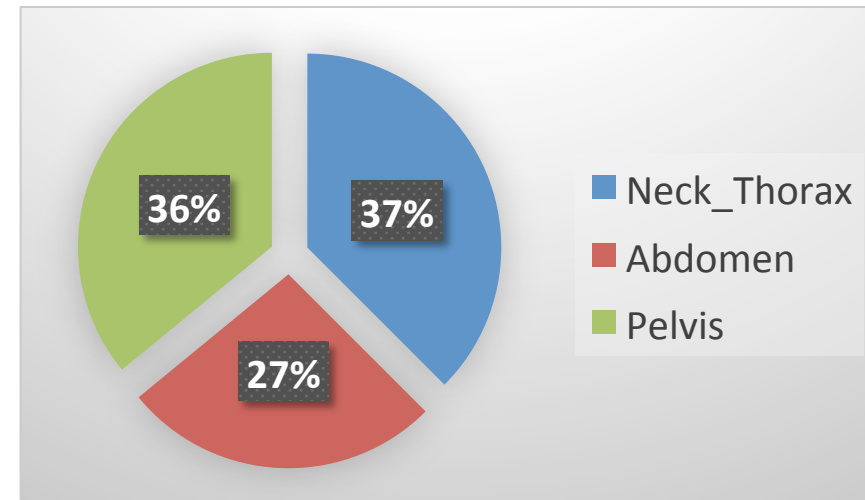
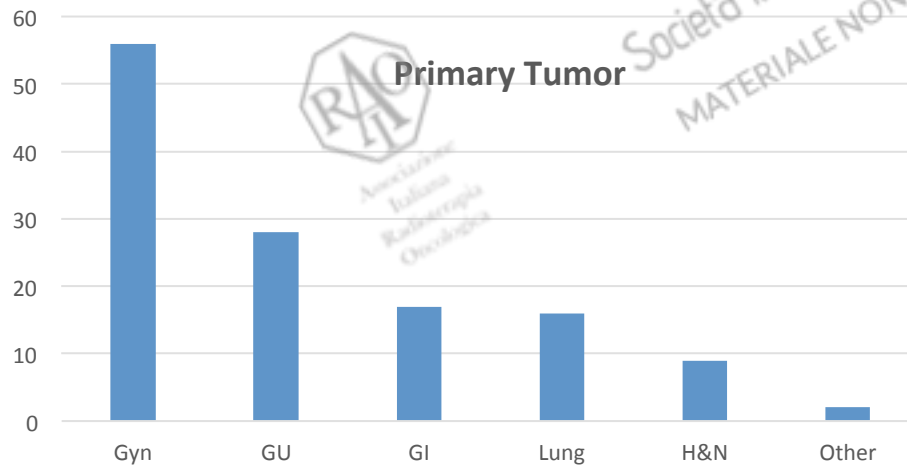
Extracranial stereotactic radiotherapy in the treatment of lymph nodal recurrences: results from a dose escalation trial.

Results: 128 lesions (101 patients)



Median age: 67 (43-87)

PTV	Mean	Min	Max
in cc	34,7	1,45	144,5



Mean Dose in 5 fx: 35 Gy (20-50)

Extracranial stereotactic radiotherapy in the treatment of lymph nodal recurrences: results from a dose escalation trial.

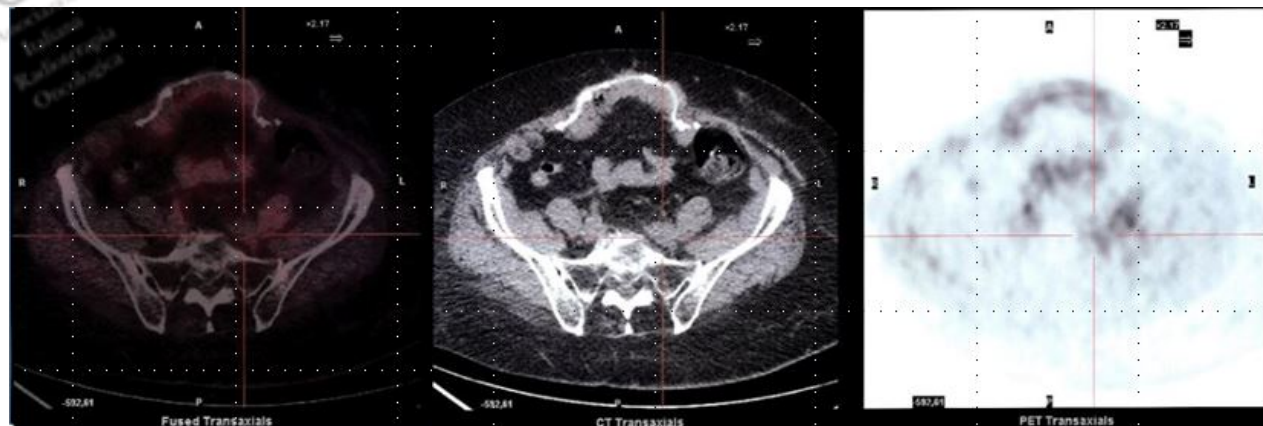
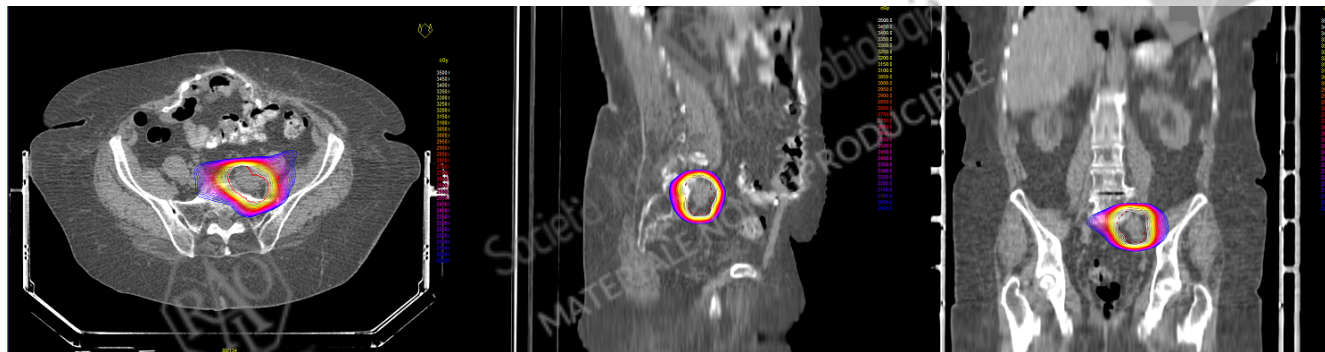
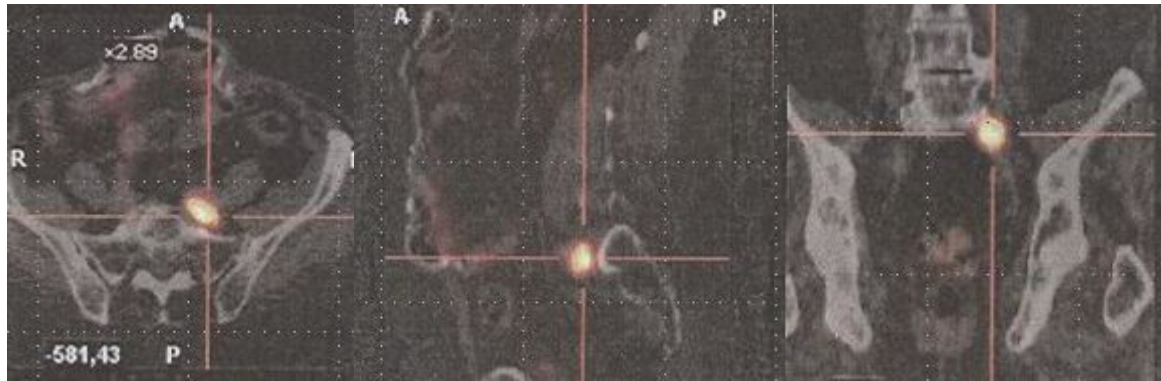
Results: 128 lesions (101 patients)

Response	%		%
OR	88	CR	68
PD	5	PR	20

No Tox \geq G3

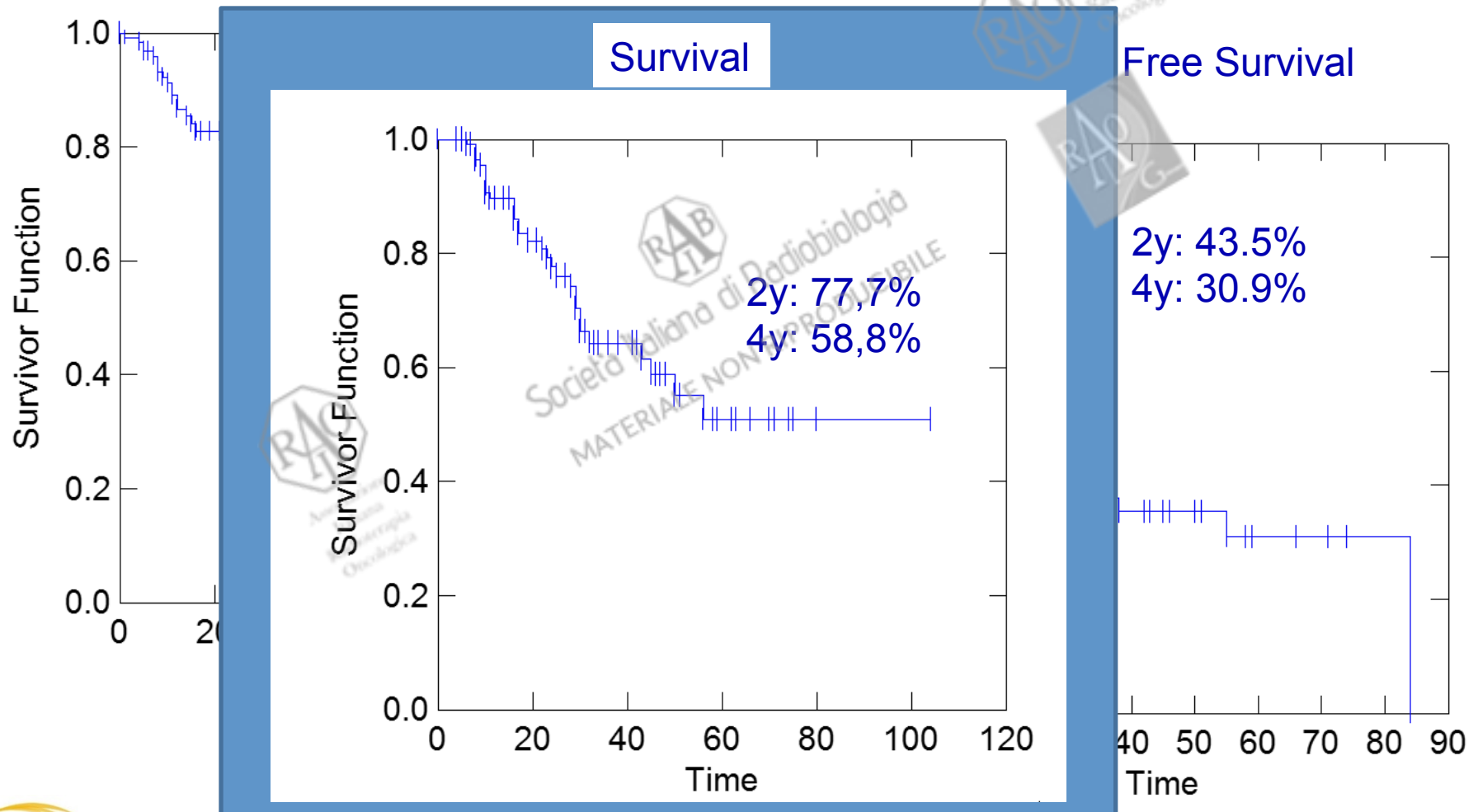
Median F-Up: 19 (4-104)

Results



Extracranial stereotactic radiotherapy in the treatment of lymph nodal recurrences: results from a dose escalation trial.

Local Control



In a quite varied setting of lymph nodal recurrences an ESRT treatment in five fractions up to a dose of 50 Gy is safe and well tolerated

