

XXXII CONGRESSO NAZIONALE AIRO
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AIRO2022

Radioterapia di precisione per un'oncologia innovativa e sostenibile

BOLOGNA, 25-27 NOVEMBRE
PALAZZO DEI CONGRESSI

 Associazione Italiana
Radioterapia e Oncologia clinica

 Società Italiana di Radiobiologia

 Associazione
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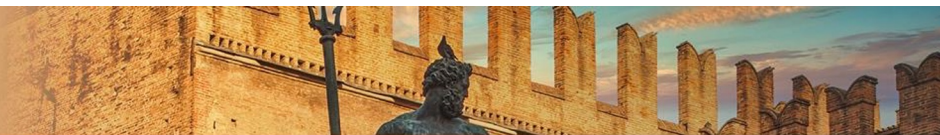
BOLOGNA, 25-27 NOVEMBRE
PALAZZO DEI CONGRESSI

Pattern of failure after Stereotactic Body Radiation Therapy (SBRT) for oligometastases: predictive factors for poly-progression

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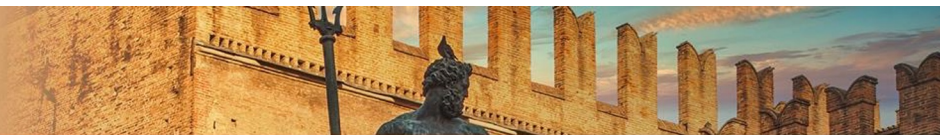


DICHIARAZIONE

Relatore: VERONICA VERNIER

Come da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e dei rapporti con soggetti portatori di interessi commerciali in campo sanitario.

- Posizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Consulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Fondi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazione ad Advisory Board **(NIENTE DA DICHIARARE)**
- Titolarità di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Partecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE)**
- Altro



BACKGROUND

- Oligometastatic disease (OMD), defined as 1-5 metastatic lesions, is a very heterogeneous scenario and can be safely treated with SRT
- Different pattern of failure after local ablative treatment (LAT):
 - Oligo progression
 - Poly metastatic diffusion

PURPOSE

To retrospectively identify predictive factors of poly-progression in oligometastatic patients treated with SRT



METHODS

- Retrospective cohort of OM patients treated with SRT from 2013 to 2021 who had a further distant disease progression after LAT
- Type of distant progression categorized as oligo- or poly- according to the number of new metastases (≤ 5 or >5)
- Univariate analysis and multivariate Cox regression (backward conditional) model to identify factors influencing progression history
- Computation of Hazard Ratios (HR)



BASELINE CHARACTERISTICS

- **Oligo progression: 473 (67,5%)**
- **Poly progression: 227 (32,5%)**
- Median time to distant progression: 7,8 months

Variables	Patients, No (%) (N=700)
Age (years)	
Mean	67
Median	74
Range	66-83
Sex	
Male	419 (59,9)
Female	281 (40,1)
Performance status	
0	422 (60,3)
≥1	278 (39,7)
Primary tumor site	
Colon	174 (24,9)
Lung	157 (22,4)
Breast	55 (7,9)
Prostate	60 (8,6)
Other	254 (36,2)
Primary tumor histology	
Adenocarcinoma	460 (65,7)
Squamous cell	47 (6,7)
Other	193 (27,6)
Metastatic presentation	
Synchronous	188 (26,8)
Metachronous	512 (73,2)
Disease-free interval (years)	
Range	0-18,2
Oligometastatic presentation	
De-novo	300 (42,8)
Repeat	102 (14,6)
Induced	298 (42,6)

Prior local ablative treatment	
Yes	255 (36,4)
No	445 (63,6)
Prior systemic therapy	
Yes	469 (67)
No	231 (33)
Previous systemic treatment lines	
1	294 (42)
2	111 (15,9)
>2	64 (9,1)
Number of metastases treated	
1	403 (57,6)
2	181 (25,9)
>2	116 (16,5)
Number of organs involved	
1	628 (89,7)
≥2	72 (10,3)
Irradiated lesions sites	
Lung	221 (31,6)
Brain	78 (11,1)
Liver	129 (18,4)
Adrenal gland	18 (2,6)
Lymph nodes	175 (25)
Others	79 (11,3)
BED (Gy)	
Median	100,2
Concomitant systemic therapy	
Yes	129 (12,4)
No	571 (81,6)



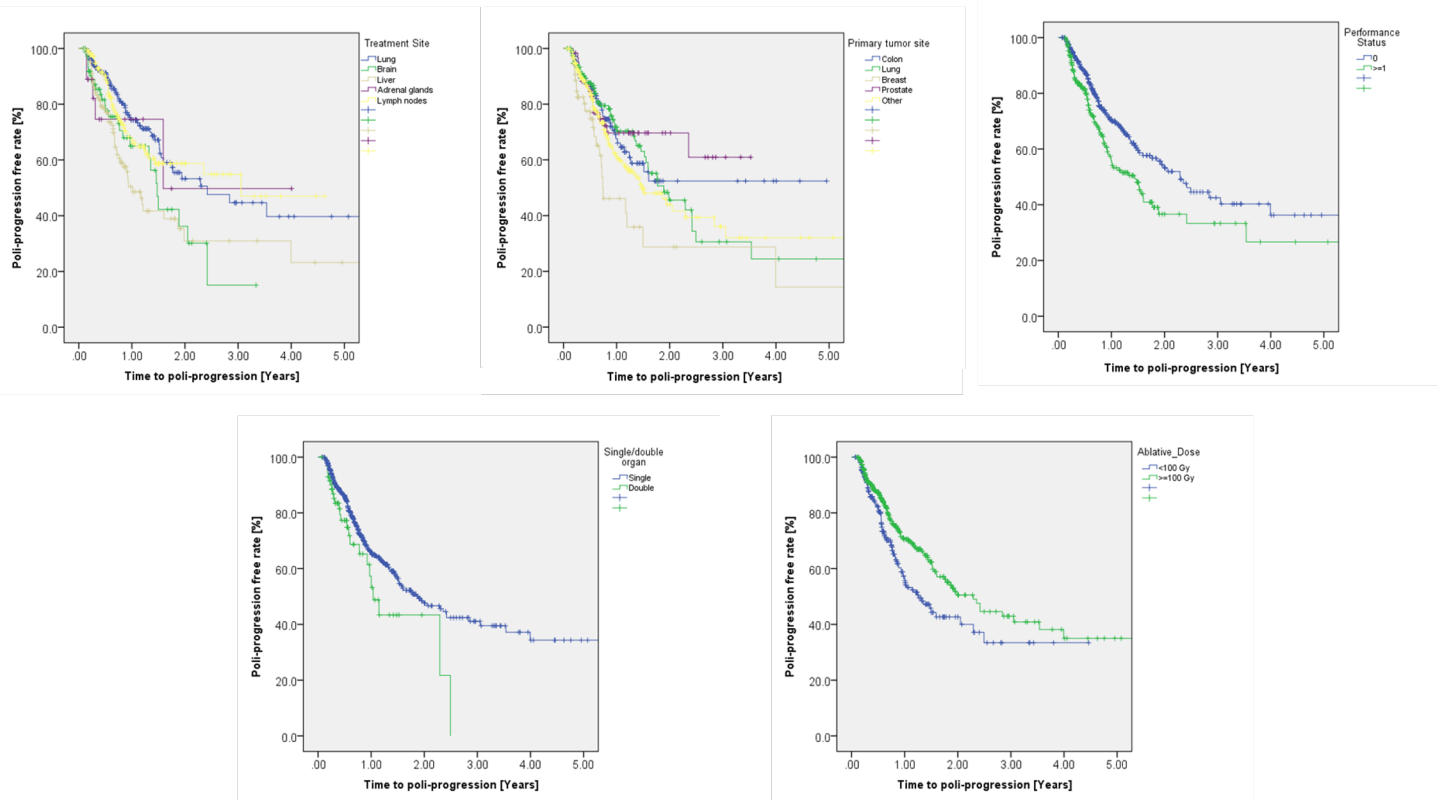
UNIVARIATE ANALYSIS

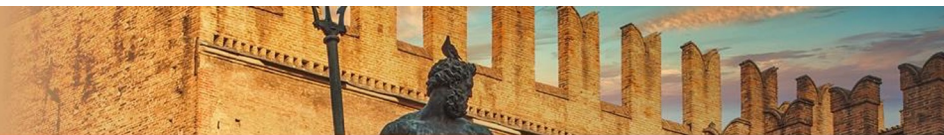
Five factors resulted significant for poly-progression:

- | | |
|--|-------------------|
| 1. Ablative dose | p=0,002 |
| 2. Performance status | p=0,001 |
| 3. Treatment of single/double organ | p=0,03 |
| 4. Primary tumour site | p=0,016 |
| 5. Treated site | p<0,001 |



UNIVARIATE ANALYSIS





MULTIVARIATE ANALYSIS

Predictor		p	Hazard Ratio
<u>Ablative dose</u>		0.01	1.54
<u>Performance Status</u>		<0.001	0.59
<u>Treated site</u>		0.003	
	Lung		0.31
	Brain		0.37
	Liver		0.58
	Adrenal glands		0.35
	Lymph-nodes		0.29
<u>Primary tumor site</u>		0.05	
	Colon		0.72
	Lung		0.86
	Breast		1.49
	Prostate		0.7

→ From the list of significant factors of the univariate analysis, only single/double organ treatment was excluded.



CONCLUSIONS

- First analysis to define factors associated with poly progression in OMD treated with SRT
- Four parameters influencing the type of progression



- Individualizing treatment intensification or deintensification
- Increasing prognostic classification accuracy

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