Radiochirurgia vs Radioterapia stereotassica frazionata nelle oligometastasi encefaliche in associazione all' irradiazione panencefalica: esperienza su 47 casi

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Special Article

Radiotherapeutic and surgical management for newly diagnosed brain metastasis(es): An American Society for Radiation Oncology evidence-based guideline

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Pz Oligometastatico, Buona prognosi, diametro ≤ 3-4 cm

- **CH+ WBRT (level 1)**
- **SRS+WBRT(level 1)**
- **SRS (level 1)**
- **CH +SRS (level 3**

CH vs SRS: Studi retrospettivi
No differenze in OS

Schoggl A et al, Acta Neurochir 2000
O'Neill BP et al, JROBP 2003
Balducci M et al, 2011

SRS: lesioni asintomatiche e $\leq$ 3-4 cm → ma…

Tossicità

FSRT

SRS vs FSRT: No trials randomizzati

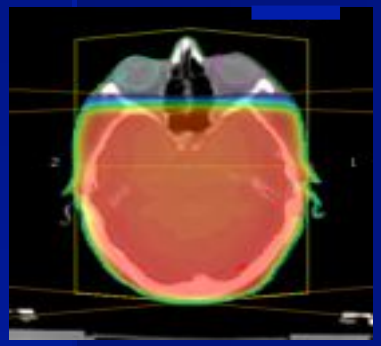
Analizzare l'outcome di pazienti con oligometastasi encefaliche trattate con Radiochirurgia (SRS) o Radioterapia stereotassica frazionata (FSRT) dopo irradiazione panencefalica (WBRT)

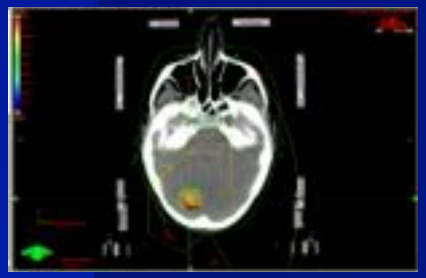
Criteri di selezione:

- Nessun precedente trattamento radioterapico o chirurgico all'Encefalo
- Conferma delle metastasi mediante TC o RM
- 1-2 Metastasi encefaliche, diametro $\leq$ 3 cm
- Tumore primitivo controllato
- Metastasi extracraniche assenti o controllate

STUDIO RETROSPETTIVO

1997-2010





47 PZ

17
WBRT+ SRS

30
WBRT +FSRT

Characteristics	Total	SRT	FSRT	T-Student Test (p-value)
N° Patients	47	17	30	NR
Age (ys)	57	57	56	0.46
Primary Tumor				
• Lung Cancer	32	14	18	
• Breast Cancer	10	1	9	0.19
• Rectal Cancer	1	0	1	
• Others	4	2	2	
No Brain Mts				
1	37	16	21	0.052
2	10	1	9	
RPA Class				
1	36	12	24	0.46
2	11	5	6	

❑ GROUP A:

WBRT + SRS

Median Dose: **3750** cGy
(3000-4000 cGy)

Daily Median Dose:

250 cGy (200-300 cGy)

Median Dose:

1500 cGy

(1500-2000 cGy)

❑ GROUP B:

WBRT + FSRT

Median Dose: **3750** cGy
(3000-4000 cGy)

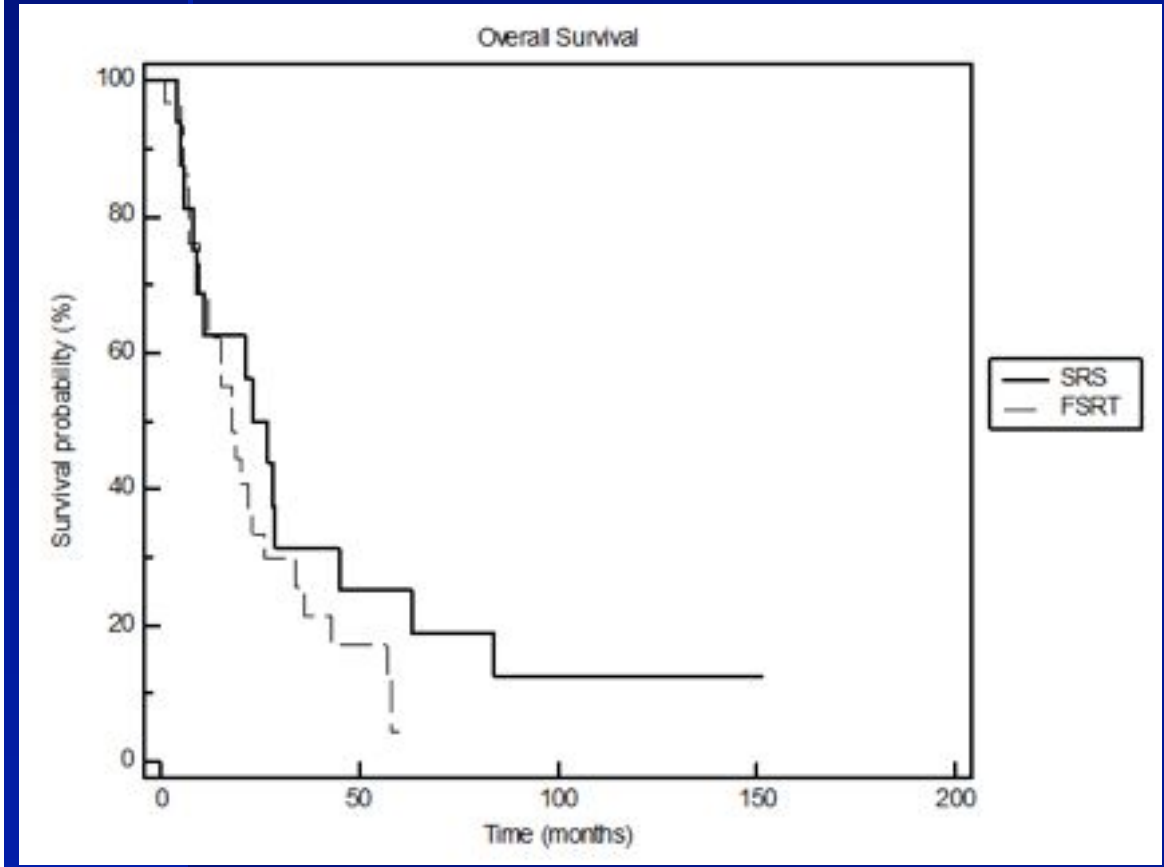
Daily Median Dose:

250 cGy (200-300 cGy)

Median Dose:
2000 cGy
(2000-2500 cGy)

Daily Median Dose:
500 cGy

FUP Mediano: 102 mesi



Median OS: 18.5 mesi

SRS vs FSRT

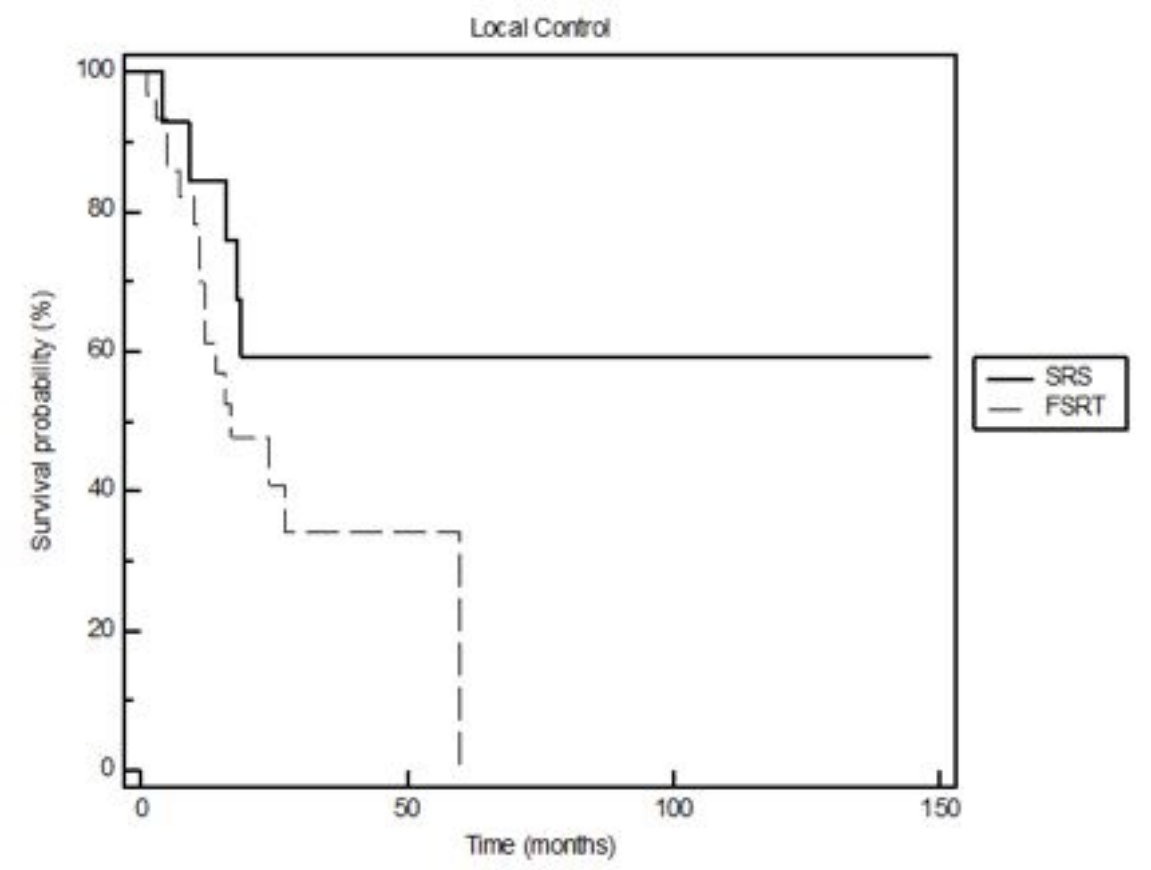
1ys OS: 56% vs 62.1 %

2ys OS: 16% vs 3%

p=0.40

Cox Proportional Hazards Regression

COVARIATE	HR	95% CI	p-value
Primary tumor	1.18	0.80-1.74	0.30
One brain metastases	1.24	0.63-2.42	0.60
RPA	0.81	0.36-1.08	0.57



Median LC: 14 mesi

SRS vs FSRT

1ys LC: 80% vs 61.1 %

p= 0.15

	Tox acuta ≥ G3	Tox cronica ≥ G3
Gruppo A (WBRT+SRS)	**0%**	**5% * (Radionecrosi)**
Gruppo B (WBRT+FSRT)	**0%**	**0%**

❑ WBRT+SRS o WBRT+ FSRT

$$BED = \frac{E}{\alpha} = D \cdot \left(1 + \frac{d}{(\alpha/\beta)}\right)$$

	BED (a/b= 10)	BED (a/b= 3)
SRS (15 Gy in 1 frazione)	31.25 Gy	54 Gy
FSRT (20 Gy in 4 frazioni)	25 Gy	32 Gy

❑ WBRT+SRS o WBRT+ FSRT possono offrire le stesse possibilità di outcomes in pazienti con oligometastasi encefaliche