


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

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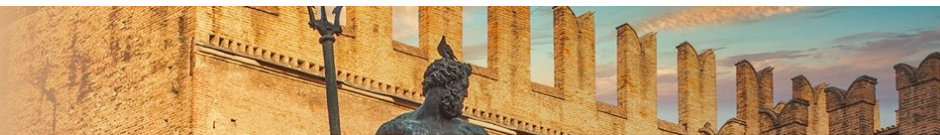
Radioterapia di precisione per un'oncologia innovativa e sostenibile

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Single treatment planning for Robotic Radiosurgery/Stereotactic Radiotherapy for multiple brain metastasis

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DICHIARAZIONE

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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)**



Aims: Stereotactic radiosurgery (SRS)/ fractionated stereotactic radiotherapy (SRT) prescription was extended to patients with multiple (≥ 5) brain metastases. Here we report our experience with single treatment planning SRS/SRT delivered with CyberKnife® (Accuray, Sunnyvale, CA) in pts with ≥ 5 brain metastases.

Material and Methods:

- From 03/2018-03/2022 a total of 677 brain metastases in 58 pts were treated with a single treatment plan SRS (23 pts) or SRT (11 pts with 3 fractions and 24 pts with 5 fractions) in our institution.
- Patient's median age was 61 (27-84) years.
- Primary tumors were: see Fig.1.
- Eight pts were previously treated with Whole Brain Radiotherapy (WBRT).
- Gross target volume (GTV) and organs at risk (OAR) were defined on a contrast-enhanced T1-weighted MRI fused to simulation computed tomography (CT). A 1 mm margin was added to GTV to define Planning target volume (PTV).

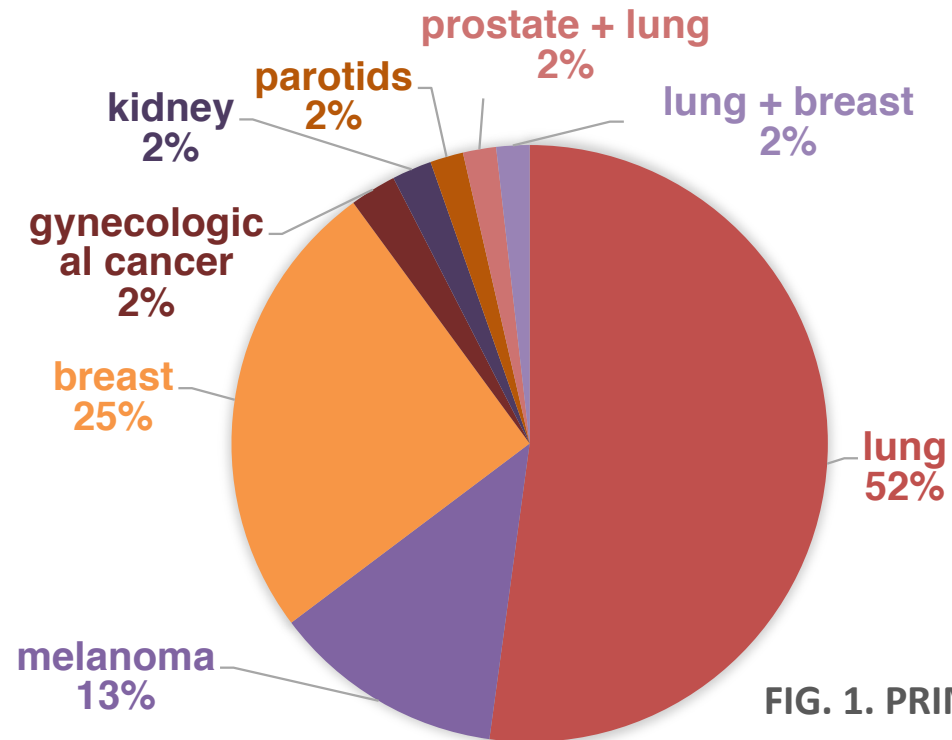
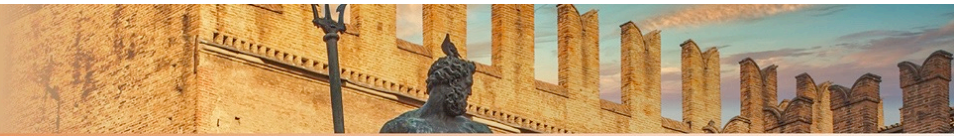


FIG. 1. PRIMARY TUMORS



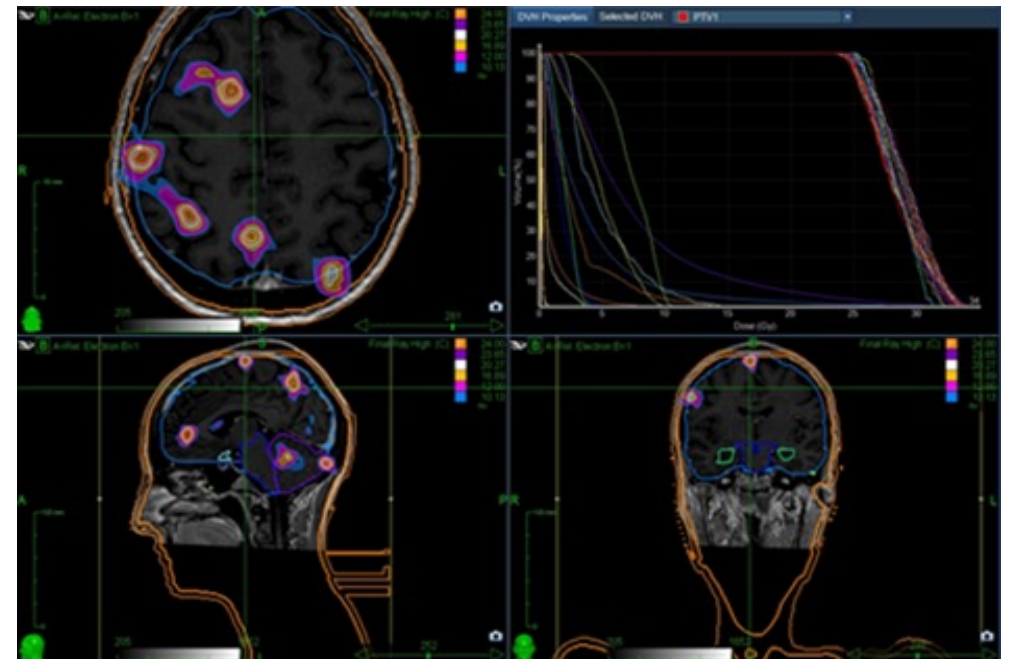
RESULTS: Treatment characteristics are presented in Table 1. Acute toxicity is presented in Table 2.

Table 1: Treatment characteristics

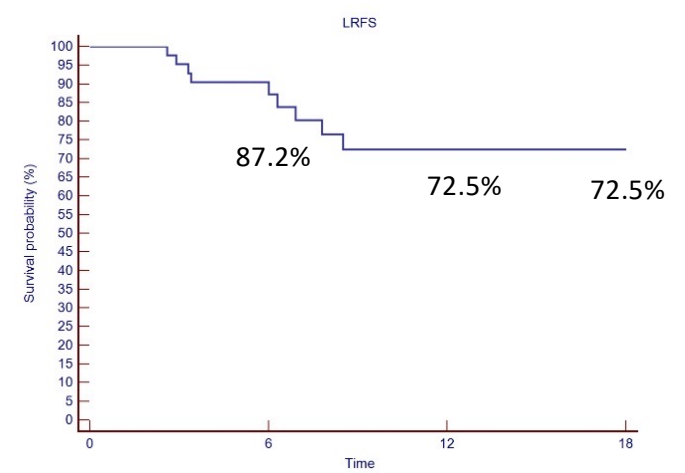
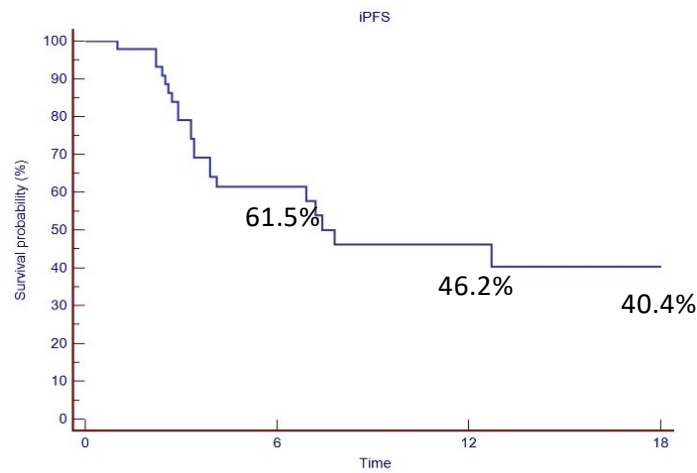
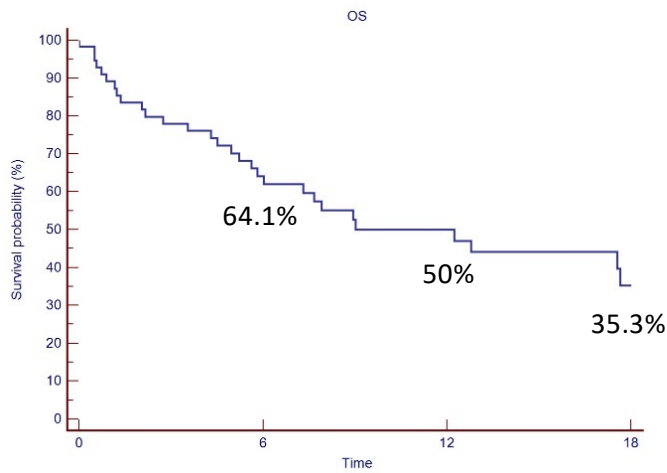
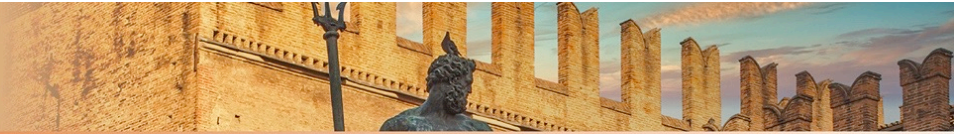
Median number of brain mts (range)	8 (5-46)
Median GTV (range) cc	1.78 (0.41-28.82)
Median PTV (range) cc	5.38 (1.31-37.8)
Median prescribed dose (range) Gy	30 (22-37.5)
Median fraction number (range)	3 (1-5)
Median isodose	78 (65-89) %

Table 2: Acute toxicity

Grade/Toxicity	Headache	Dizzines	Nausea	Vomiting	Weakness
Grade 1	3.4%	5.2%	3.4%	1.7%	3.4%
Grade 2	0	0	0	0	0



No patient presented radionecrosis during the follow up



With a median follow of 6.6 (0.5-23.3) months 29 pts were dead.

Conclusion:

SRS/SRT in pts with ≥ 5 brain metastases is feasible with a good toxicity profile and it is a promising option of treatment in these pts.