

XXXIII CONGRESSO NAZIONALE AIRO

AIRO2023

BOLOGNA,
27-29 OTTOBRE 2023

PALAZZO DEI CONGRESSI

Radioterapia Oncologica: l'evoluzione al servizio dei pazienti



Associazione Italiana
Radioterapia e Oncologia clinica

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Side Effects and Quality of Life in a Post-Prostatectomy Ablative Radiation Therapy (POPART) Multicentric Trial

Dott.ssa Federica Ferrario
Università degli studi Milano Bicocca

DICHIARAZIONE

Relatore: Federica Ferrario

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)**

Multicentric Trial

Eligible patient registration



CT simulation and planning



Salvage RT -> 32.5 Gy in 5 fx



IGRT-VMAT treatment



Toxicity, QoL and outcome assessment



Fondazione IRCCS
San Gerardo dei Tintori



Regione
Lombardia



REGIONE DEL VENETO



ULSS 1
DOLOMITI



Ospedale di Bergamo

Sistema Socio Sanitario



Regione
Lombardia

ASST Papa Giovanni XXIII

ClinicalTrials.gov Identifier
NCT04831970

Inclusion Criteria

- ✓ Prostate adenocarcinoma treated with radical prostatectomy
- ✓ Post-prostatectomy PSA of ≥ 0.1 - < 2 ng/ml and/or local relapse
- ✓ No distant metastases at PSMA PET CT within 60 days prior to registration
- ✓ Androgen deprivation therapy allowed

Inclusion Criteria

- ✓ Prostate adenocarcinoma treated with radical prostatectomy

- ✓ Post **Up to now 84 patients enrolled**
- ✓ No c **→ 50 analyzed** median fup 12.2 (3-27) months

- ✓ Androgen deprivation therapy allowed

Patients and Disease Characteristics

Age at RT (year)	Median 70 (52 – 83)
Gleason score	
6 (3+3)	7 (14%)
7 (3+4)	19 (38%)
7 (4+3)	19 (38%)
8 (4+4)	3 (6%)
9 (4+5)	1 (2%)
Unknown	1 (2%)
Pathological T stage	
≤T2c	32 (64%)
T3a	12 (24%)
T3b	6 (12%)

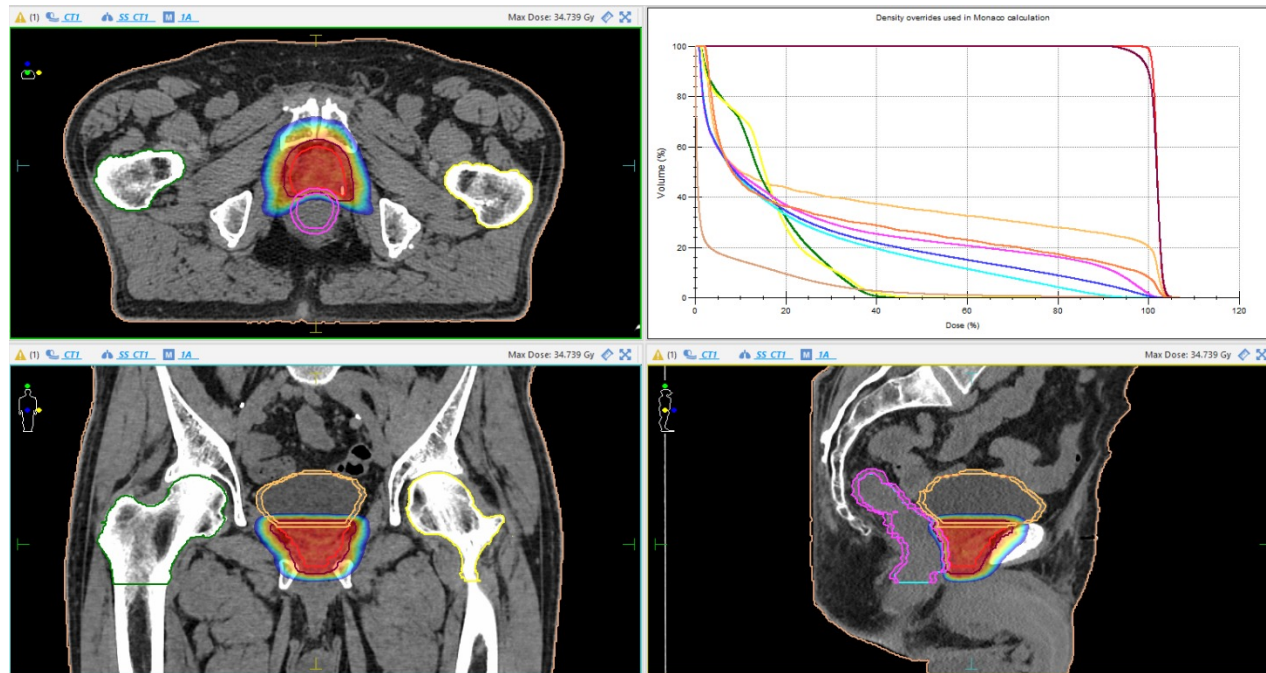
Pathological N stage	
pN0	41 (82%)
pNx	9 (18%)
pN1	0 (0%)
Positive surgical margin	24 (48%)
Time from RP to SRT (months)	Median 52 (4 – 156)
Postoperative PSA (ng/mL)	Median 0.01 (0.00 – 0.17)
PSA pre-RT (ng/mL)	Median 0.3 (0.1 – 1.9)
ADT use	5 (10%)
ADT duration (months)	Median 9 (6 – 114)
Patients with BCR after SRT	6 (12%)

Anatomical reproducibility

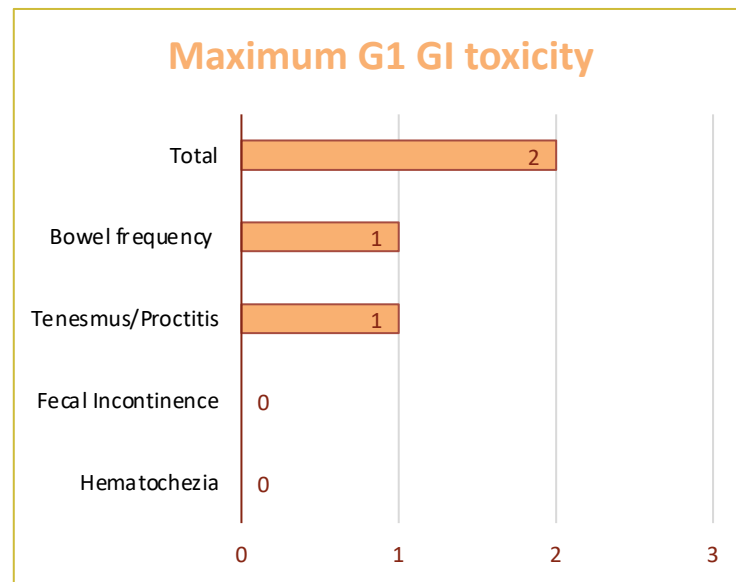
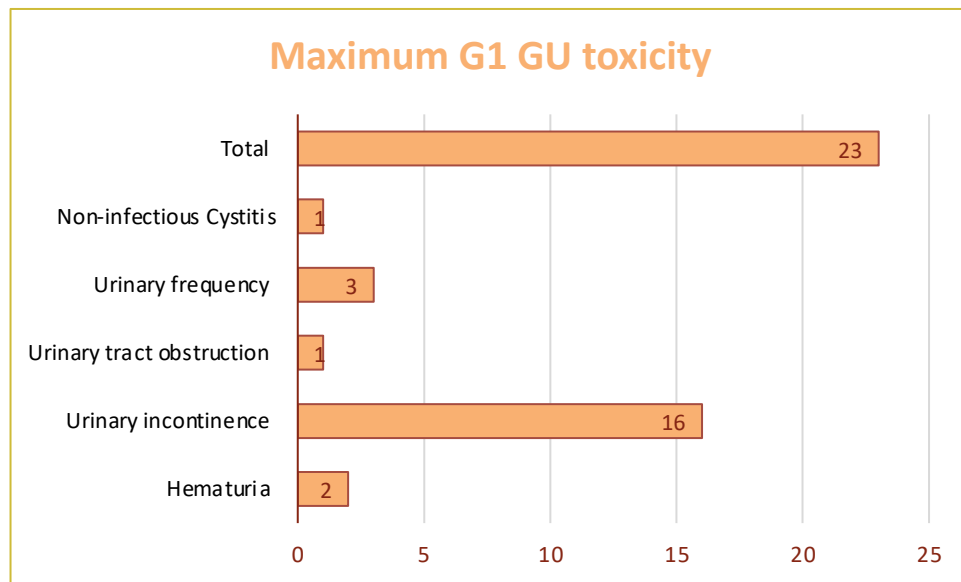
- ✓ Organ motion mitigation was obtained before simulation and each treatment fraction with:
 - A rectal microenema
 - 500 ml of still water
- ✓ CTV was delineated according to the GFRU guideline

Treatment Planning

- ✓ 32.5 Gy in 5 fractions
(EQD₂[1.5] = 74.3 Gy)
- ✓ Treatment was delivered on Linac platform with a Volumetric Modulated Arc Therapy (VMAT)
- ✓ Median CTV (cc) 25.4
[range 4.4-149.0]
- ✓ Median PTV (cc) 62.5
[range 14.8-250.2]



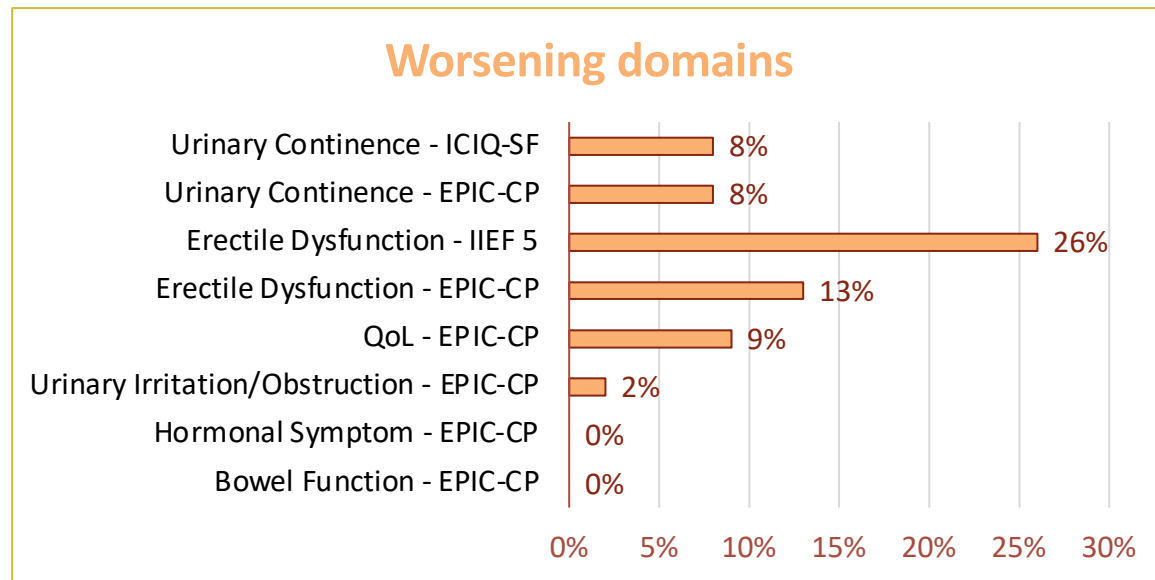
Late Toxicity (CTCAE v.5)



Late G1 urinary and rectal toxicities occurred in 46% and 4% of patients, respectively

Patient-reported QoL

Paired t-test comparing pre- & post-treatment questionnaire scores showed no statistically significant differences



Clinical Outcomes

- ✓ Worsening of erectile function correlating with PTV D2% (OR, 2.560; 95% CI, 1.186-4.335; P=0.032)
- ✓ Higher rectum and bladder doses were significant predictors of late G1 GU toxicities
- ✓ Bladder wall D10cc independently correlated with late G1 GU toxicity (P=0.034)
- ✓ Median post-RT PSA nadir 0.04 (0.00 – 0.84) ng/mL
- ✓ Six patients with biochemical failure, including two nodal relapse

Take Home Messages


- ✓ Post-prostatectomy SBRT for biochemical and/or clinical relapse is a convenient and safe treatment
- ✓ No increase in short- and medium-term toxicity
- ✓ Most questionnaire scores remained stable, with only minor variations
- ✓ Long term results are needed to confirm these findings

Take Home Messages

- ✓ Post-prostatectomy SRT for biochemical recurrence is a convenient and safe option
- ✓ No increase in toxicity
- ✓ Most quality of life considerations
- ✓ Long term results are needed to confirm these findings

**Grazie per
l'attenzione!**

 @Fefe_Ferrario

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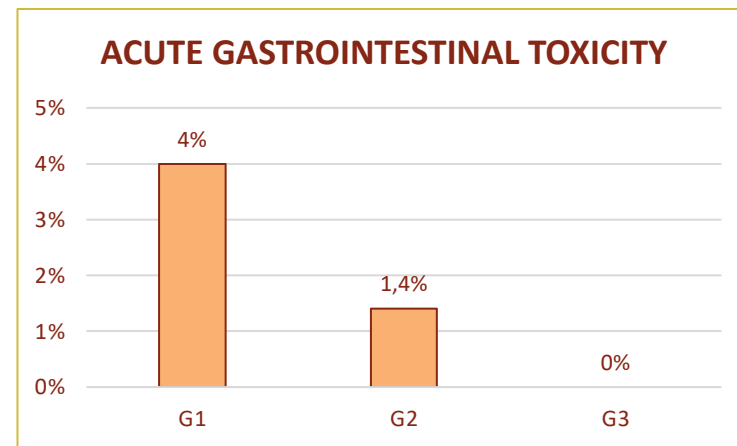
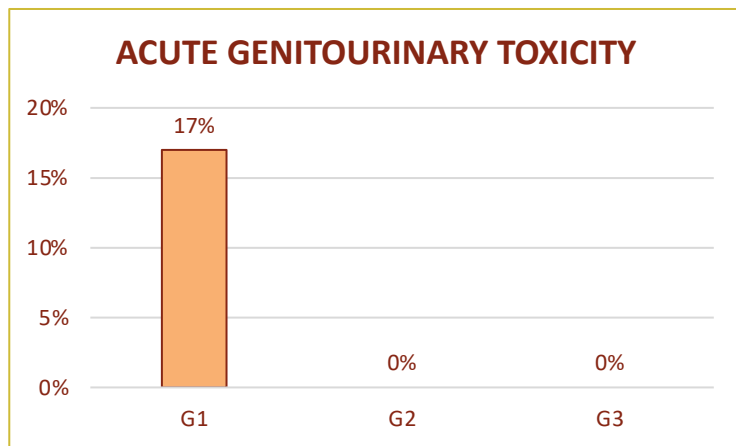
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Early Toxicity (CTCAE v.5)



* Acute toxicity data from 71 pts who completed the treatment and with minimum 3 months follow-up

Significant dose cut-offs for late G1 GU toxicity

Organ at risk	Cut-offs	Incidence of toxicity (%)	p-value
Rectum	Dmean < 8.7 Gy	28% vs 18%	0.026
Bladder	Dmean < 11.6 Gy	30% vs 16%	0.012
Bladder wall	D10cc < 17.1 Gy	34% vs 8%	0.001
	D25% < 29.7 Gy	34% vs 8%	< 0.001
	D50% < 4.2 Gy	31% vs 10%	0.002

Organs at risk dose parameters

	Median	Mean	Range
Bladder			
Dmean (Gy)	10.8	11.1	1.0 – 24.7
Bladder wall			
D0.035cc (Gy)	33.6	33.5	31.8 – 34.0
D10cc (Gy)	16.1	14.7	0.7 – 30.9
D25% (Gy)	29.1	22.5	0.7 – 32.5
D50% (Gy)	3.1	6.6	0.3 – 28.1
Rectum			
Dmean (Gy)	8.3	9.2	2.7 – 15.6
Rectum wall			
D0.035cc (Gy)	32.9	32.9	32.2 – 34.4
D1cc (Gy)	31.6	31.5	27.1 – 32.7
D50% (Gy)	3.6	4.9	0.6 – 13.4