Efficacia e tossicità dell'irradiazione sulla pelvi nei pazienti con tumore della prostata ad alto rischio

Lorenza Marino

National Comprehensive Cancer Network®

NCCN Guidelines Version 1.2013
Prostate Cancer

NCCN Guidelines Index
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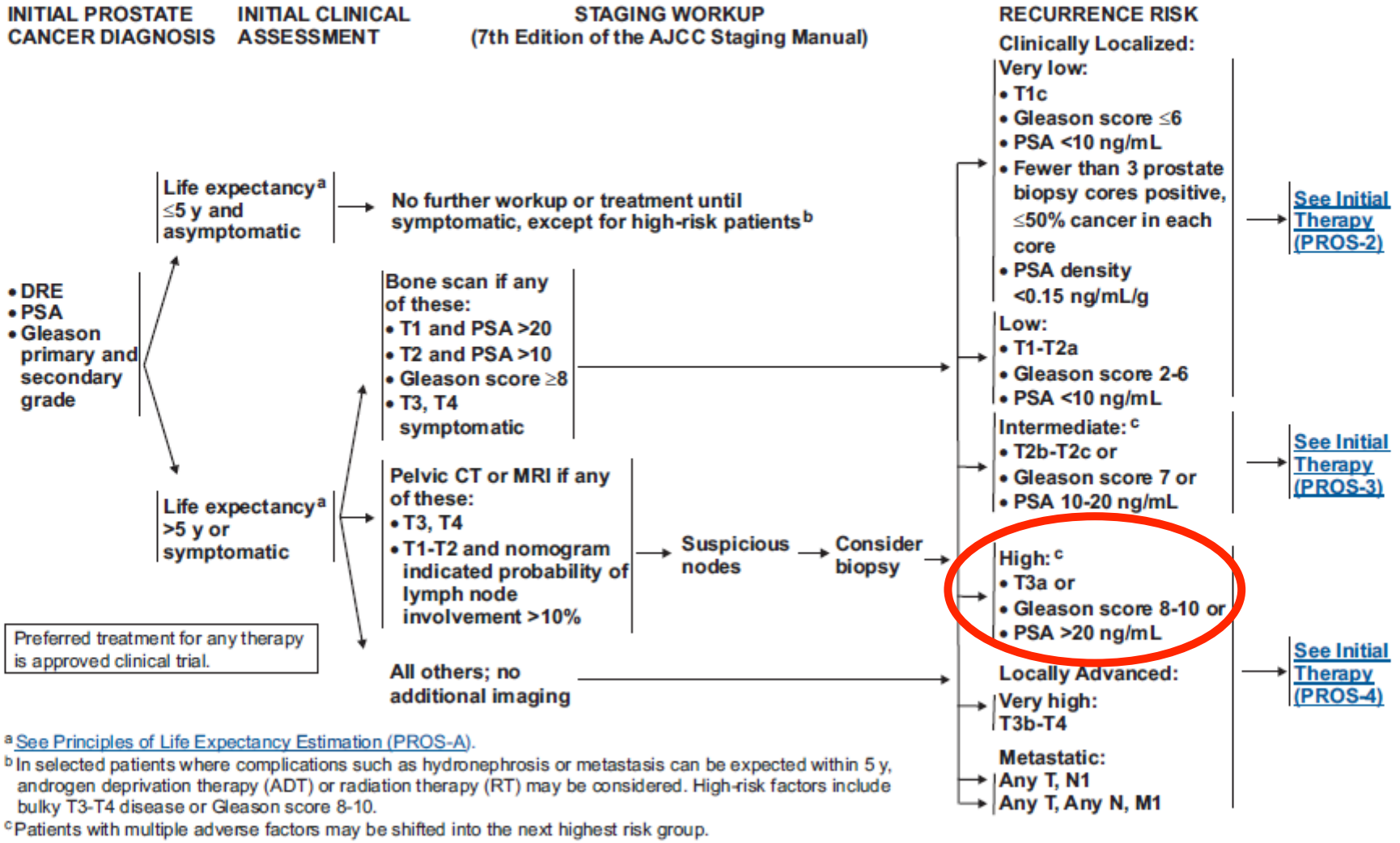
Discussion



[a] See Principles of Life Expectancy Estimation (PROS-A).

[b] In selected patients where complications such as hydronephrosis or metastasis can be expected within 5 y, androgen deprivation therapy (ADT) or radiation therapy (RT) may be considered. High-risk factors include bulky T3-T4 disease or Gleason score 8-10.

[c] Patients with multiple adverse factors may be shifted into the next highest risk group.

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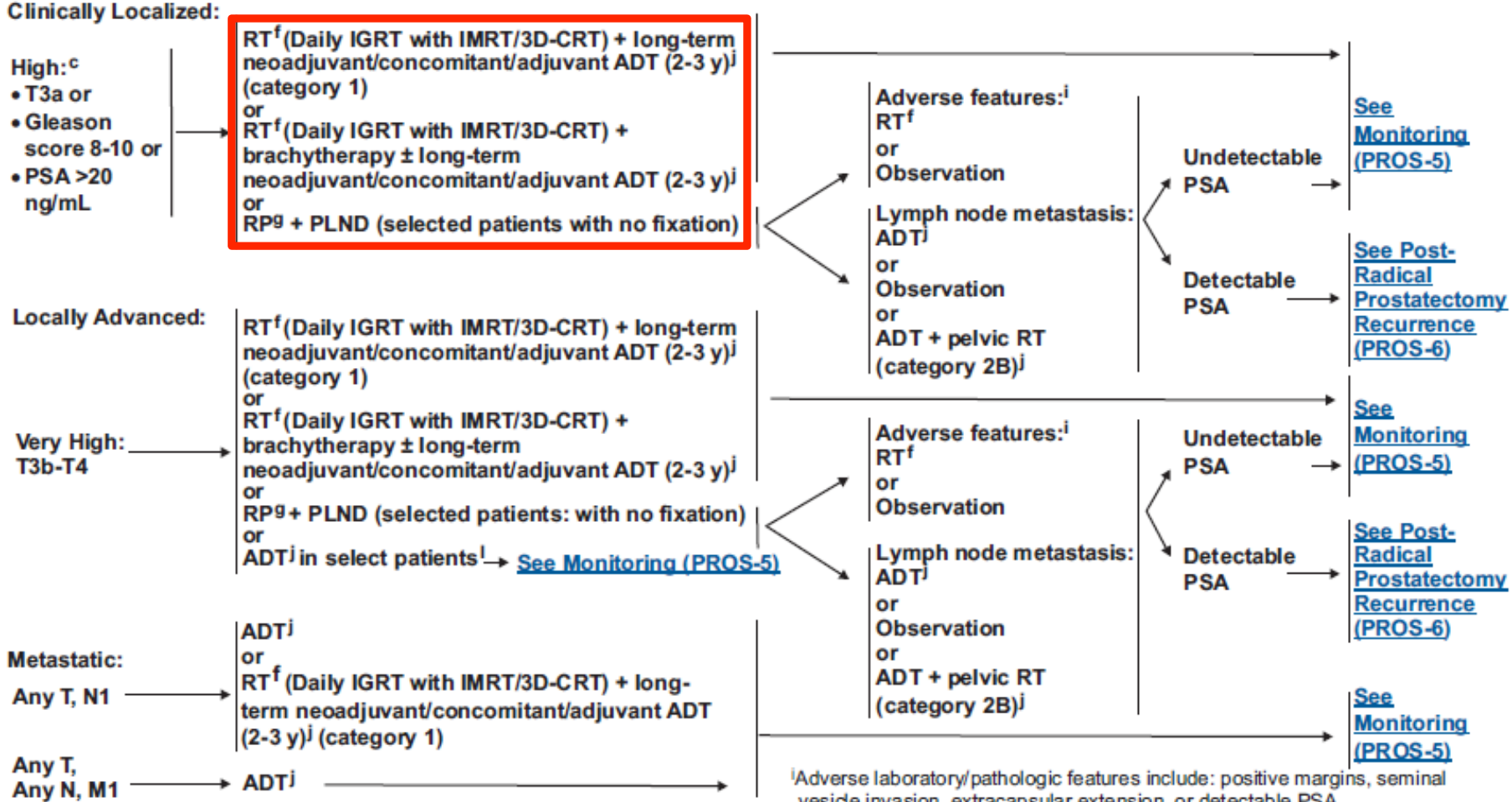


[c] Patients with multiple adverse factors may be shifted into the next highest risk group.
[f] See Principles of Radiation Therapy (PROS-C).
[g] See Principles of Surgery (PROS-D).
[i] Adverse laboratory/pathologic features include: positive margins, seminal veside invasion, extracapsular extension, or detectable PSA.
[j] See Principles of Androgen Deprivation Therapy (PROS-E).
[l] Primary therapy with ADT should be considered only for patients who are not candidates for definitive therapy.

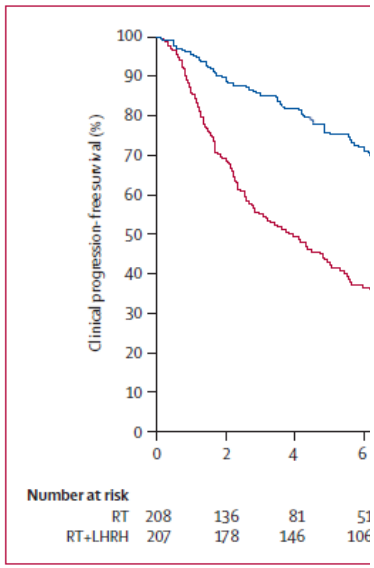
First Author	Institution		Key Findings
Seaward	University of California, San Francisco	Retrospective single institutional analysis of patients undergoing prostate only or WPRT with and without hormonal therapy.	WPRT defined at superior border L5-S1. Noted WPRT associated with improved PSA control rate. Greatest benefit seen for those with risk between 15 and 30%.
Pan	University of Michigan	Compared men treated with definitive 3D-CRT ($n = 1,832$) divided into three categories based on the estimated risk (Partin table) of LN involvement: 0–5%; >5–15%; and >15%.	Significant benefit for whole pelvic radiotherapy in men with risk of lymph node involvement of 5–15% with an improved 2-year PSA control rate, 90.1% vs. 80.6% ($p = 0.02$).
Roach	RTOG	Phase Randomized Trial III ($n \sim 1,200$) comparing sequence of hormonal therapy and role of whole pelvic vs. prostate only radiotherapy. Primary endpoint: PFS including PSA, clinical failure, death from any cause	WPRT associated with improvement in PFS when preceded by CAB but not when administered before CAB
Jacob	Fox Chase Cancer Center	Retrospective analysis patients with risk +LN >15% treated with "whole" pelvic radiotherapy vs. partial pelvic radiotherapy, or prostate only fields ($n = 420$). Concluded radiation dose was the major determinant of PSA control in patients with a lymph node risk >15%, with no benefit to pelvic radiotherapy or hormonal therapy	None o (defi as de patie been of R
Spiotto	Stanford	Retrospective analysis of post op patients undergoing prostate only or WPRT with and without hormonal therapy.	Use of impr in th with with
Pommier	Multi-Center French Trial	444 patients with T1b-T3N0M0 randomized to 66–70 Gy to prostate ± 46 Gy to pelvis with the superior border set to S1/S2. RT preceded by 4–8 months of CAB is some "high-risk" patients (≥T3, GS ≥7, or PSA ≥3× normal). Most patients had LN risk <15% (55%) using Roach formula	None o (defi low r (med and ~10% GS 8–10), and some did not receive CAB
Da Pozzo	Italy	Retrospective study 250 consecutive patients with + nodes. Compared outcomes in 129 men treated with WPRT (51.6%) and ADT and 121 patients (48.4%) received ADT alone	Multivariable analysis use of WPRT and the number of + lymph nodes major predictors of PSA control ($p = 0.002$ and $p = 0.003$) and cause specific survival ($p = 0.009$ and $p = 0.01$)
Aizer	Yale	Retrospective review of 277 consecutive patients with estimated risk of lymph node involvement ≥15%	After adjusting for other factors WPRT group had improved 4-year biochemical control rate (69.4% vs. 86.3%).
Milecki	Greater Poland Cancer Center	Retrospective analysis including men with high risk disease ($n = 162$) with and without WP RT.	The 5-year actuarial cause specific survival (CSS) were A = 90% and B = 79% ($p = 0.01$) and PSA control rates 52% versus 40% ($p = 0.07$), respectively.

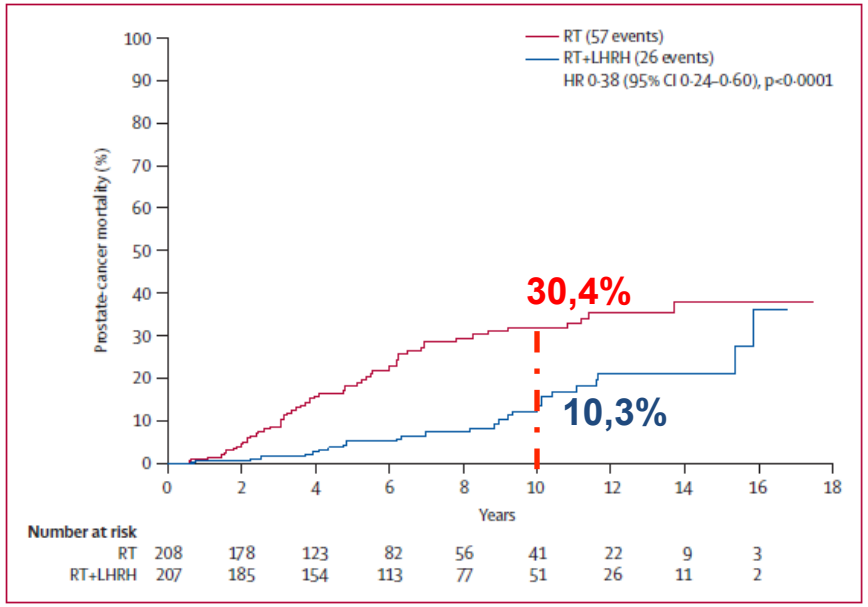
- ✓ Studi retrospettivi
- ✓ Beneficio in pz con LNI > 15%
- ✓ Dose non sufficiente

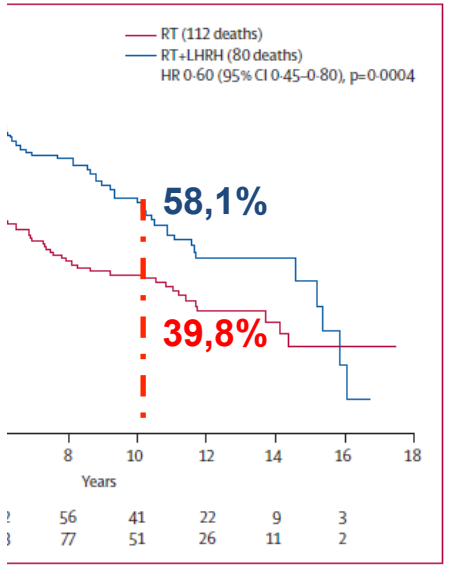
IJROBP 2011 v.80,N.1, pp 6-16

External irradiation with or without long-term androgen suppression for prostate cancer with high metastatic risk: 10-year results of an EORTC randomised study

Michel Bolla, Geertjan Van Tienhoven, Padraig Warde, Jean Bernard Dubois, René-Olivier Mirimanoff, Guy Storme, Jacques Bernier, Abraham Kuten, Cora Sternberg, Ignace Billiet, José Lopez Torecilla, Raphael Pfeffer, Carmel Lino Cutajar, Theodore Van der Kwast, Laurence Collette







Interpretation In patients with prostate cancer with high metastatic risk, immediate androgen suppression with an LHRH agonist given during and for 3 years after external irradiation improves 10-year disease-free and overall survival without increasing late cardiovascular toxicity.

EFFECT OF WHOLE PELVIC RADIOTHERAPY FOR PATIENTS WITH LOCALLY ADVANCED PROSTATE CANCER TREATED WITH RADIOTHERAPY AND LONG-TERM ANDROGEN DEPRIVATION THERAPY

GIOVANNA MANTINI, M.D.,* LUCA TAGLIAFERRI, M.D.,* GIAN CARLO MATTIUCCI, M.D.,* MARIO BALDUCCI, M.D.,* VINCENZO FRASCINO, M.D.,* NICOLA DINAPOLI, M.D.,* CINZIA DI GESÙ, M.D.,† EDY IPPOLITO, M.D.,† ALESSIO G. MORGANTI, M.D.,† AND NUMA CELLINI, M.D.*

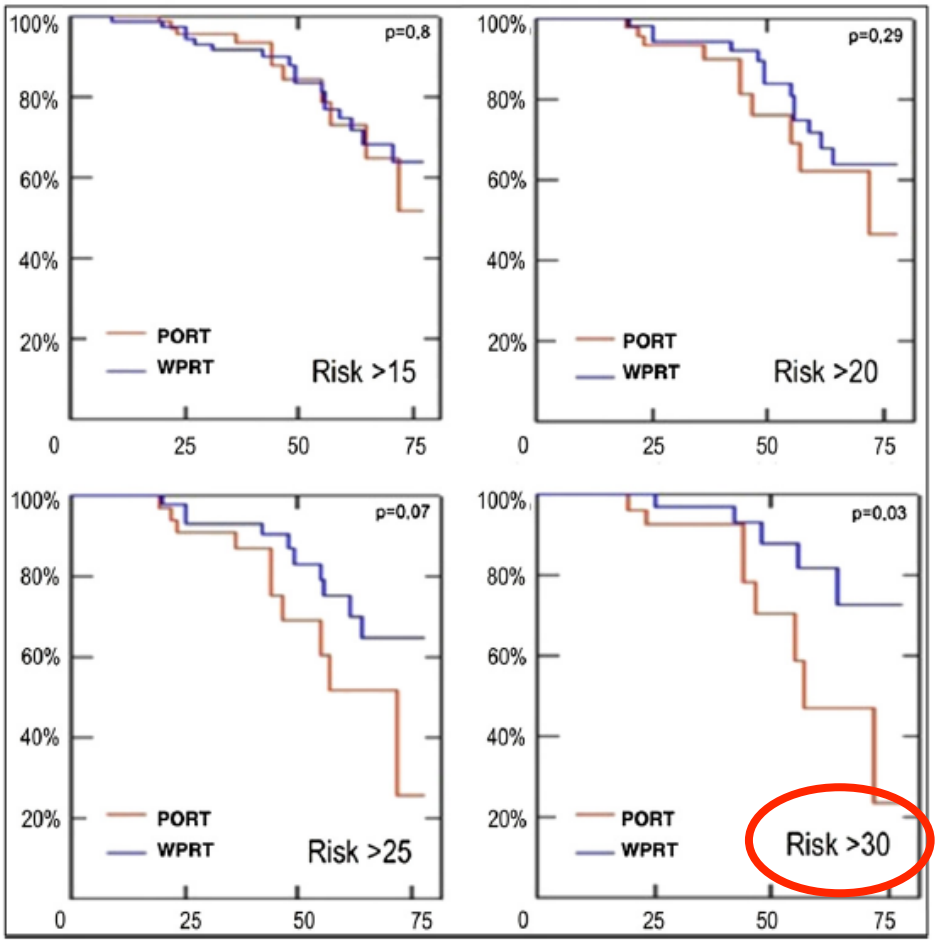


Table 3. Acute toxicity

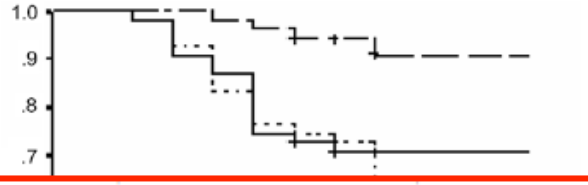
	Acute toxicity (%)					
	Skin		GI		GU	
Grade	PORT	WPRT	PORT	WPRT	PORT	WPRT
0	40.7	35.1	22	17	12.8	11.4
1	7.2	6.7	20.1	18.9	24.3	23.4
2	3.3	3.3	9.4	8.3	13.6	9.7
3	0.8	0.2	0.8	1.6	1.6	1.9
4	0	0	0	0	0	0

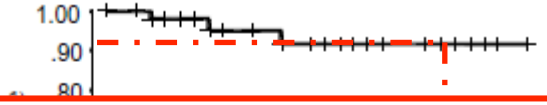
With a median follow-up of 52 months (range, 20–150), our analysis supports the use of WPRT in association with long-term ADT for patients with a high risk of nodal involvement (>30%), although a definitive recommendation must be confirmed by a randomized trial.

IJROBP 2011, vol.81,N.5, pp e721-e726

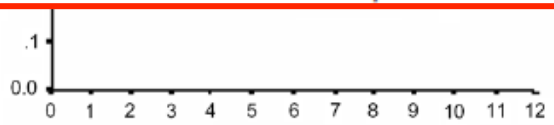
Analysis of toxicity in patients with high risk prostate cancer treated with intensity-modulated pelvic radiation therapy and simultaneous integrated dose escalation to prostate area

Stefano Arcangeli[a,*], Biancamaria Saracino[a], Maria Grazia Petrongari[a], Sara Gomellini[a], Simona Marzi[b], Valeria Landoni[b], Michele Gallucci[c], Isabella Sperduti[d], Giorgio Arcangeli[a]





Conclusions: Pelvic IMRT and simultaneous dose escalation to prostate area is a well-tolerated technique in patients with prostate cancer requiring treatment of pelvic lymph nodes, and seems to be associated with a lower frequency and severity of side effects when compared with conventional techniques reported in other series.



	3	6	9	12
intestinal	55	52	27	18
rectal	53	40	19	10
urinary	53	41	22	11

Total	44	32	28	19	6

Late rectal toxicity

Acute: rectal G0 71%
GU G0 63%

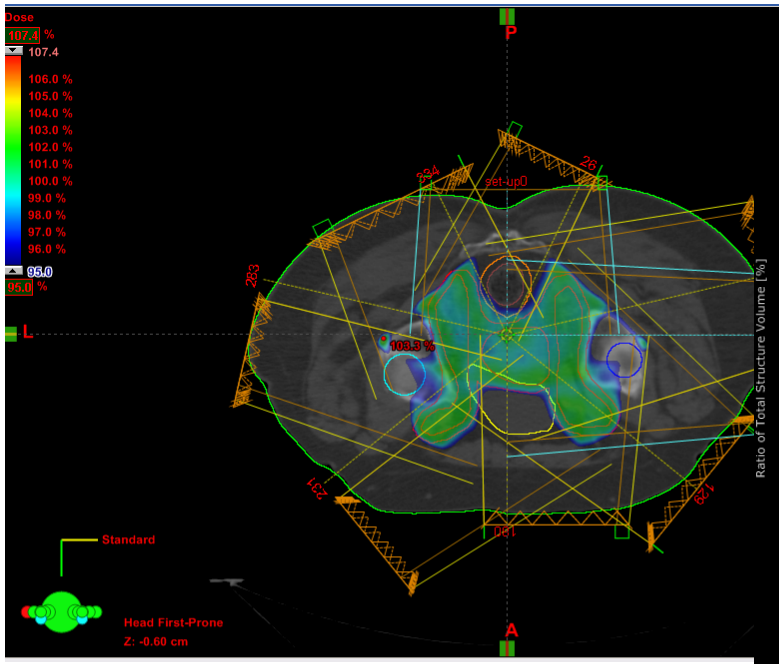
Radiotherapy and Oncology 84 (2007), 148-155

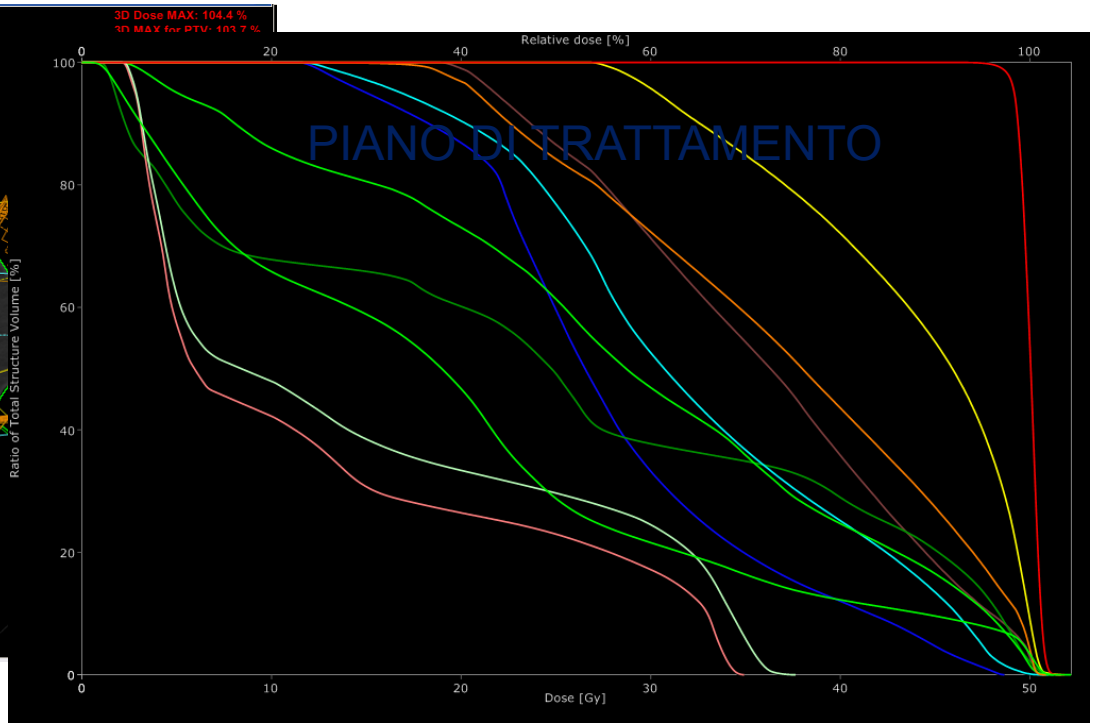
Dall' 1.04.2011 al 15.03.2013

cT3a
PSA > 20 ng/ml
GS ≥ 8

N. Pazienti	**19**
Età	
Mediana	73
Range	59-78
Gleason Score	8
Range	8-9
iPSA	27
Range	4.4-113

OT neoadiuvante/concomitante/adiuvante





CTV1:prostata + vescichette seminali
CTV2: CTV1 +N pelvici

PTV1: 74-76 Gy
PTV2: 50-54 Gy

Intestino tenue • singole anse • intera cavità peritoneale	V15 <120cc V45 <195cc	Tossicità acuta ≥G3	<10%
Retto	V50 <50% V60 <35% V65 <25% V70 <20%	Tossicità tardiva ≥G2 Tossicità tardiva ≥G3	<15% <10%
Vescica	Dmax <65Gy V65 <50%	Tossicità tardiva ≥G3	<6%

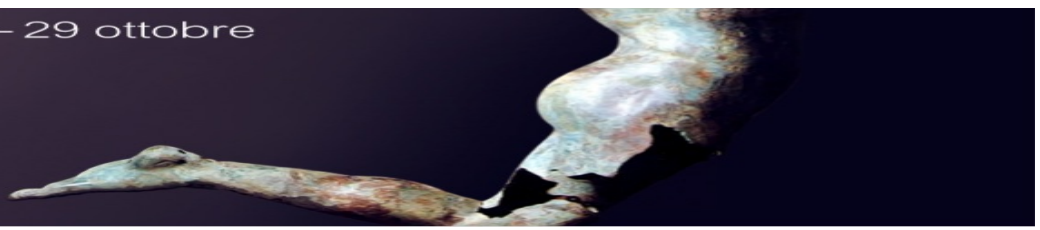
Quantec Constraints

Marks LB et al. IJROBP 2010; 76 S3: S10-S19

Pene

Teste dei femori

	[0]	[1]	[2]	[3]	[4]
LOWER G.I. INCLUDING PELVIS	No change	Increased frequency or change in quality of bowel habits not requiring medication/ rectal discomfort not requiring analgesics	Diarrhea requiring parasympatholytic drugs (e.g., Lomotil)/ mucous discharge not necessitating sanitary pads/ rectal or abdominal pain requiring analgesics	Diarrhea requiring parenteral support/ severe mucous or blood discharge necessitating sanitary pags/abdominal distention (flat plate radiograph demonstrates distended bowel loops)	Acute or subacute obstruction, fistula or perforation; GI bleeding requiring transfusion; abdominal pain or tenesmus requiring tube decompression or bowel diversion
GENITOURINARY	No change	Frequency of urination or nocturia twice pretreatment habit/ dysuria, urgency not requiring medication	Frequency of urination or nocturia which is less frequent than every hour. Dysuria, urgency, bladder spasm requiring local anesthetic (e.g., Pyridium)	Frequency with urgency and nocturia hourly or more frequently/ dysuria, pelvis pain or bladder spasm requiring regular, frequent narcotic/gross hematuria with/ without clot passage	Hematuria requiring transfusion/ acute bladder obstruction not secondary to clot passage, ulceration or necrosis



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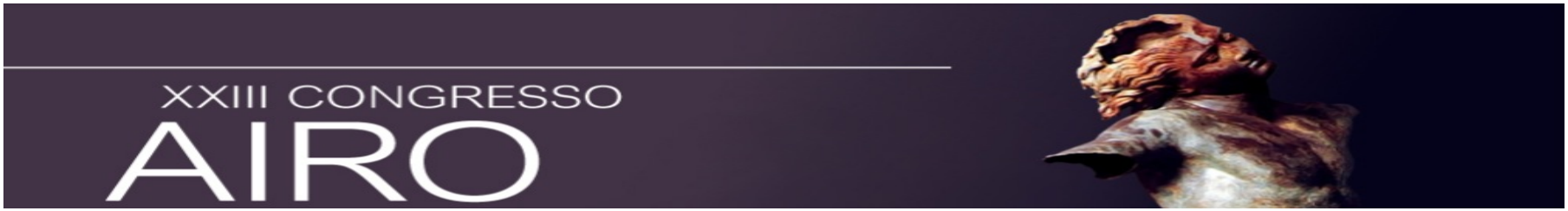
Dipartimento dei Beni Culturali e dell'Identità Siciliana
Servizio Museo interdisciplinare Regionale "A. Pepoli" Trapani.

	G0	G1	G2	G3
Tossicità acuta GU	74%	21%	5%	0%
Tossicità acuta rettale	63%	32%	5%	0%

1° PSA mediano post-RT: 0,33 ng/ml (range 0-10,4 ng/ml)



Il breve follow-up indica un controllo biochimico
con basso profilo di tossicità;
un più lungo follow-up è necessario
per valutare i risultati a lungo termine.

Comparable target coverage

Buon senso clinico

Dose escalation > Tumor Control

Critical organ sparing

Time consuming