SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliero - Universitaria di Modena
Policlinico

RMN PELVICA NELLO STAGING DI PAZIENTI AFFETTI DA NEOPLASIA PROSTATICA LOCALIZZATA/ LOCALMENTE AVANZATA: QUALE REALE IMPATTO NEL PROCESSO DI PIANIFICAZIONE RADIOTERAPICA ?

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UOC RADIOTERAPIA ONCOLOGICA
Policlinico di Modena

ALGORITMO STADIATIVO AIOM 2012

*Da eseguirsi, indipendentemente dalla classe di rischio, anche in presenza di sintomi o fosfatasi alcalina alterata

Guidelines on
Prostate Cancer

EAU 2014

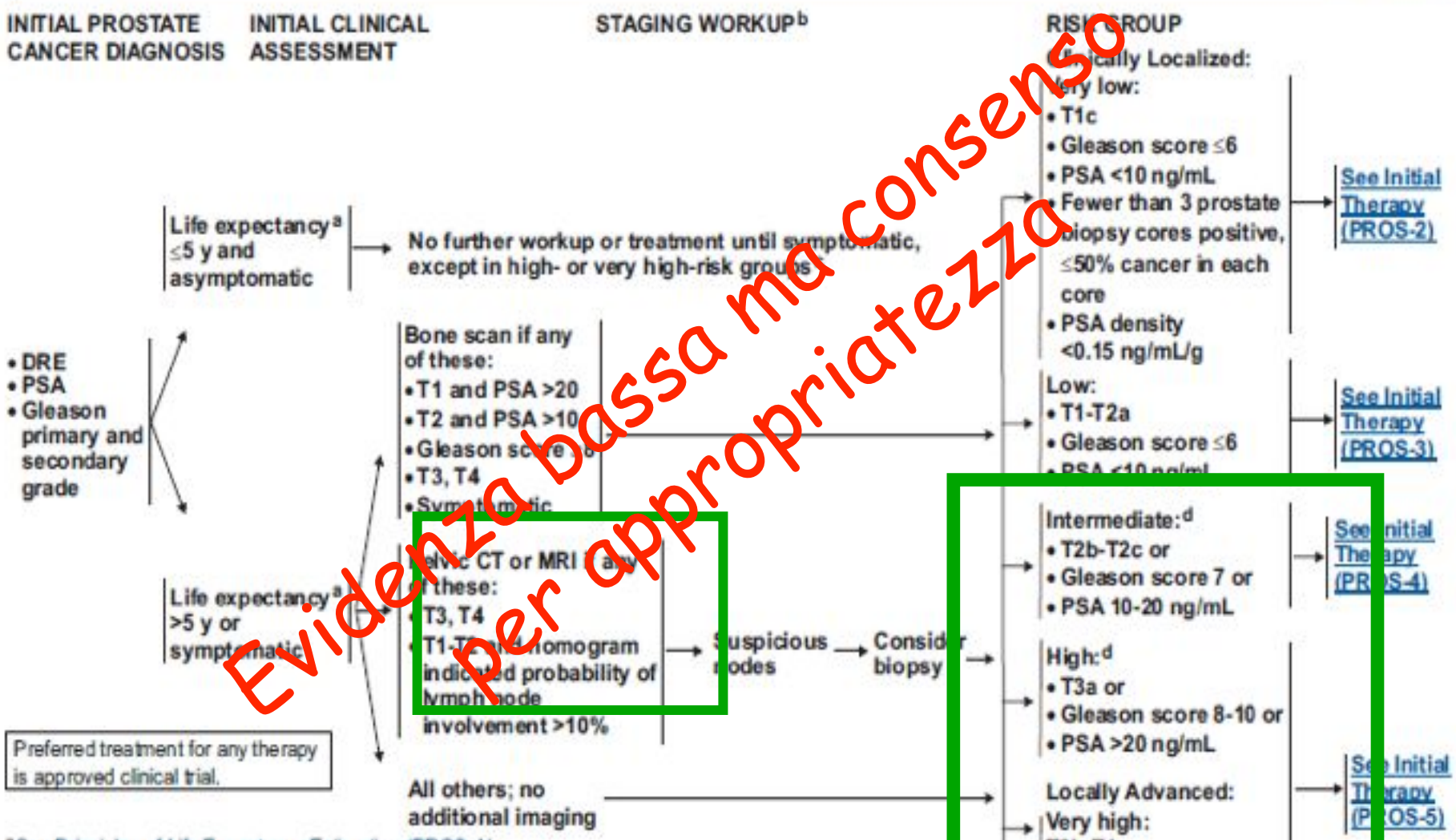
7.4 Guidelines for the diagnosis and staging of PCa

Recommendations for the diagnosis of PCa	LE	GR
Biopsy and further staging investigations are only indicated if they affect the management of the patient.	3	A
Transrectal ultrasound (TRUS)-guided systemic biopsy is the recommended method in most cases of suspected PCa. A minimum of 10-12 systemic, laterally directed, cores are recommended, with more cores in larger volume prostates.	1	A
Transition zone biopsies are not recommended in the first set of biopsies due to low detection rates.	2b	B
One set of repeat biopsies is warranted in cases with persistent indication for PCa (abnormal DRE, elevated PSA or histopathological findings suggestive of malignancy at the initial biopsy).	2a	B
Overall recommendations for further (three or more) sets of biopsies cannot be made; the decision must be made based on an individual patient.	3	C
Transrectal peri-prostatic injection with a local anaesthetic can be offered to patients as effective analgesia when undergoing prostate biopsies.	1	A
Recommendations for the staging of PCa		
Imaging is not indicated for staging in low-risk tumours.	3	A
For local staging (T-staging) of PCa, the most relevant information will be provided by the number and sites of positive prostate biopsies, the tumour grade, and the level of serum PSA.	2	A
For local staging, CT and TRUS should not be used.	3	A
Prostate multiparametric MRI should be used in local staging only if its results change patient management.	2b	A
Prostate multiparametric MRI is not recommended for staging purposes in patients with low-risk PCa.	2b	B
Lymph node status (clinical N-staging) needs only to be assessed when potentially curative treatment is planned.	3	B
Lymph node imaging (using CT or MRI) is recommended in asymptomatic patients only if the PSA level > 10 ng/mL or Gleason score ≥ 8 or clinical stage ≥ T3 (i.e. intermediate-/high-risk situations).	2b	A
Bone scan is recommended in asymptomatic patients only if the PSA level > 10 ng/mL or Gleason score ≥ 8 or clinical stage ≥ T3 (i.e. intermediate-/high-risk situations).	2b	A
Bone scan is indicated in patients with symptoms evocative of bone metastases.	3	A

National Comprehensive Cancer Network®

NCCN Guidelines Version 2.2014
Prostate Cancer

NCCN Guidelines Index
Prostate Table of Contents
Discussion



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

[b] See Principles of Imaging (PROS-B).

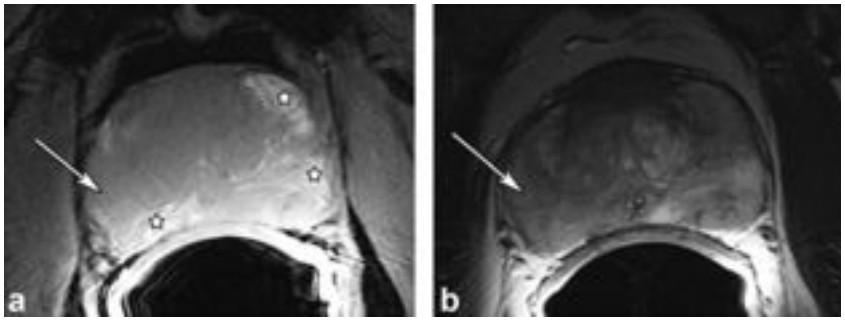
[c] In selected patients where complications such as hydronephrosis or metastasis can be expected within 5 y, androgen deprivation therapy (ADT) or radiation therapy (RT) may be considered. High-risk factors include bulky T3-T4 disease or Gleason score 8-10.

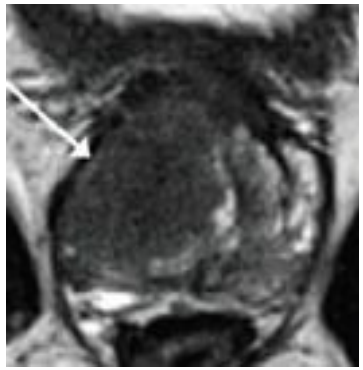
[d] Patients with multiple adverse factors may be shifted into the next highest risk group.

RMN PELVI
Studio morfologico

T1 SE o FSE ax

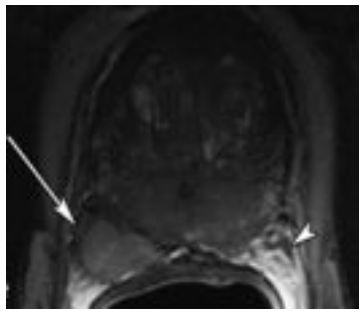
- aree emorragiche post-biopsia





T2 FSE ax, cor e sag (strato sottile 3mm)

- anatomia subghiandolare (zona periferica e centrale)
- lesioni tumorali ipo-intense, ovalari e mal definite nella zona periferica; lenticolari con aspetto a carboncino cancellato nella zona transizionale
- estensione extracapsulare (≥T3), neurovascolare e vescichette seminali

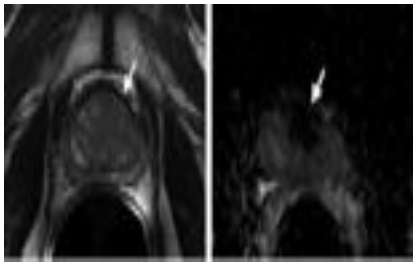


Journal of Magnetic Resonance Imaging (2013) 37:1035-1054

RMN PELVI
Studio funzionale

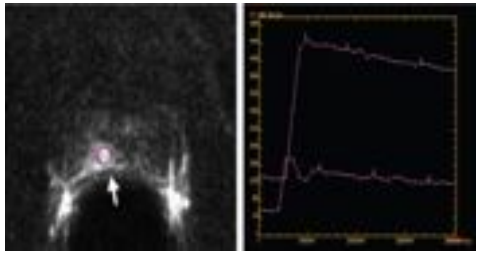
DWI

- limiti nella zona centrale (basso ADC dell'iperplasia ghiandolare)



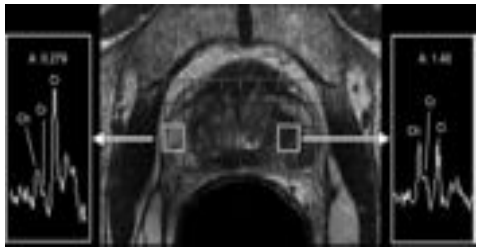
DCE

- sensibilità 96-100% nel ricercare recidive dopo chirurgia e tp focali
- falsi positivi: prostatite, iperplasia fibromuscolare, noduli stromali
- falsi negativi: tumori a basso enhancement



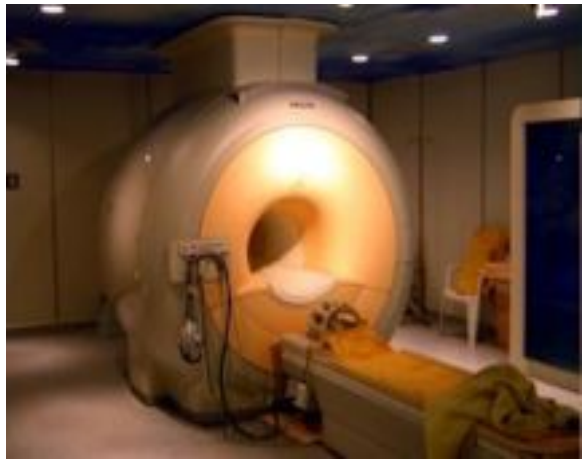
MRS

- rapporto (colina+creatina)/citrato (↑colina metabolismo membrane)
- fattore confondente nelle prostatiti ↑colina e ↓citrato
- utilità tuttora dibattuta (alta specificità, bassa sensibilità)



Journal of Magnetic Resonance Imaging (2013) 37:1035-1054
AJR (2012) 199:103-110; Acta Oncologica (2013) 52:1629-1636
AJR 2013; 200:W361–W368; Diagn Interv Imaging (2013) 94(12):1299-1311

Scopo dello studio

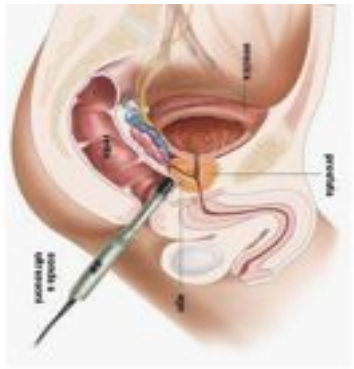


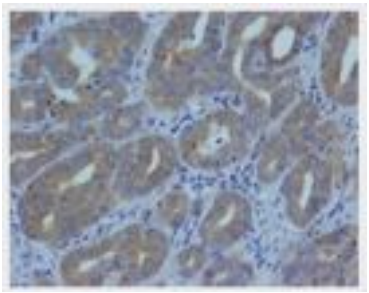
VALUTARE IL RUOLO DELLA RMN PELVICA NELLA PIANIFICAZIONE DEL TRATTAMENTO RT IN PAZIENTI CON CARCINOMA PROSTATICO A RISCHIO INTERMEDIO-ALTO

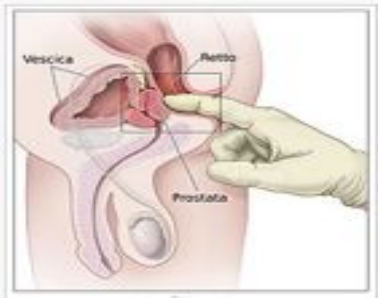
Materiali e metodi (1)

79 PZ affetti da Pca rischio intermedio/alto
dal 2008 al 2013

- **ETÀ MEDIA = 69.8 aa (57-79)**
- **PS ECOG 0-1**







STADIAZIONE

- ESAME CLINICO
- ESPLORAZIONE RETTALE
- ECOGRAFIA TRANS-RETTALE
- EI positivo per ADK (MAPPING PROSTATICO)

Materiali e metodi (2)

European Association of Urology

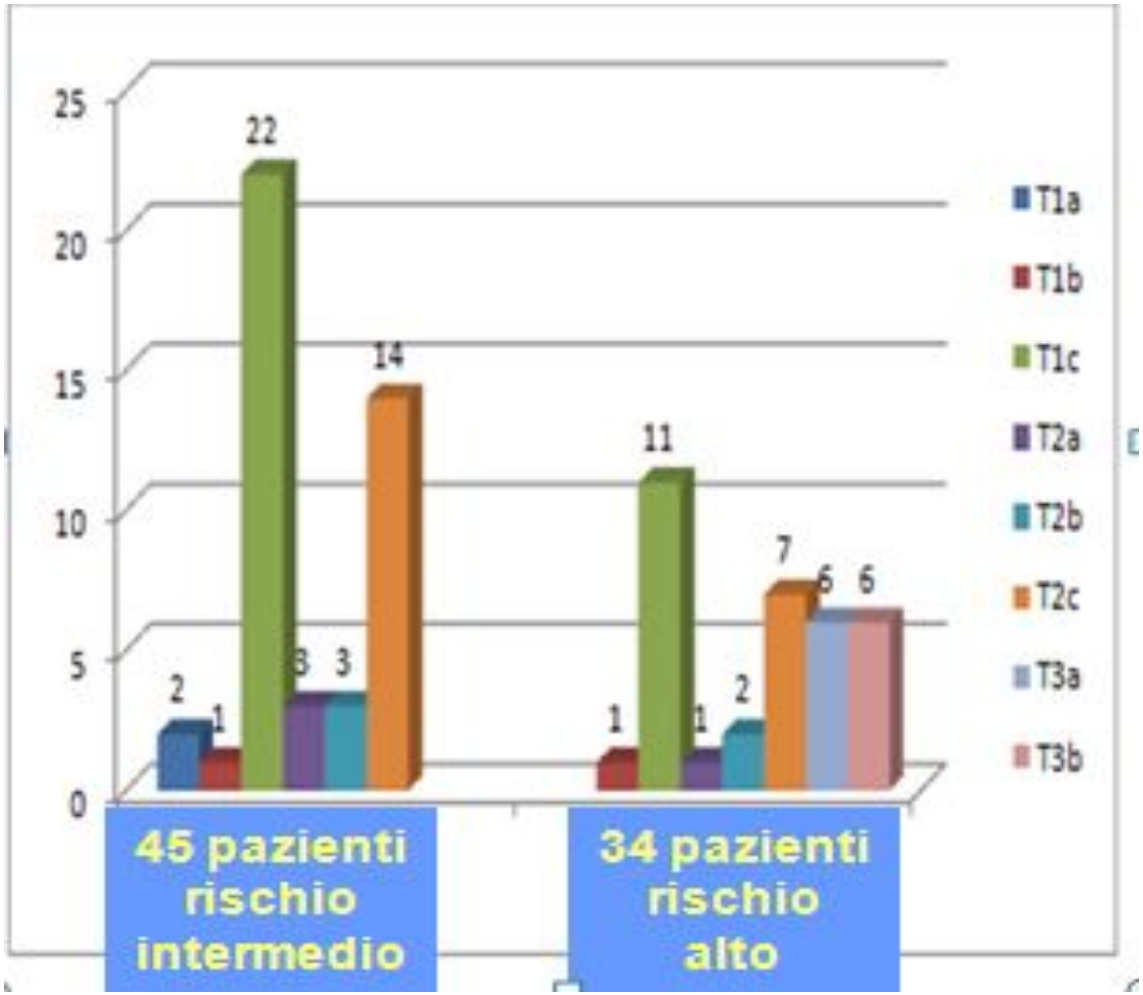
Defined risk groups of localized prostate cancer

	Very low-risk	Low-risk	Intermediate-risk	High-risk	Locally advanced
D'Amico (2)		PSA ≤ 10 ng/mL and GS < 7 and cT1-2a	PSA 10-20 ng/mL or GS ≤ 7, or cT2b	PSA > 20 ng/mL, or GS > 7, or cT2c-3a	
NCCN (3)	cT1c, GS < 7, PSA < 10 ng/mL, PSAD < 0.15, < 3 positive biopsies	PSA < 10 ng/mL, GS < 7, cT1-2a	PSA 10-20 ng/mL, or GS 7, or cT2b-2c	PSA > 20 ng/mL, or GS > 7, or cT3a	cT3b-4
CAPRA score (4)		< 3	3-5	6-10	
EAU (5)		PSA < 10 ng/mL, GS < 7, cT1c	PSA 10-20 ng/mL, or GS 7, or cT2b-2c	PSA < 20 ng/mL, GS 8-10 or = > cT3a	

In these guidelines, the D'Amico risk-group classification is used to define high-risk PCa (high-risk or locally advanced PCa comprise stages T3 and T4). Low-risk, versus high-risk PCa is based on PSA findings only, or on Gleason score only.

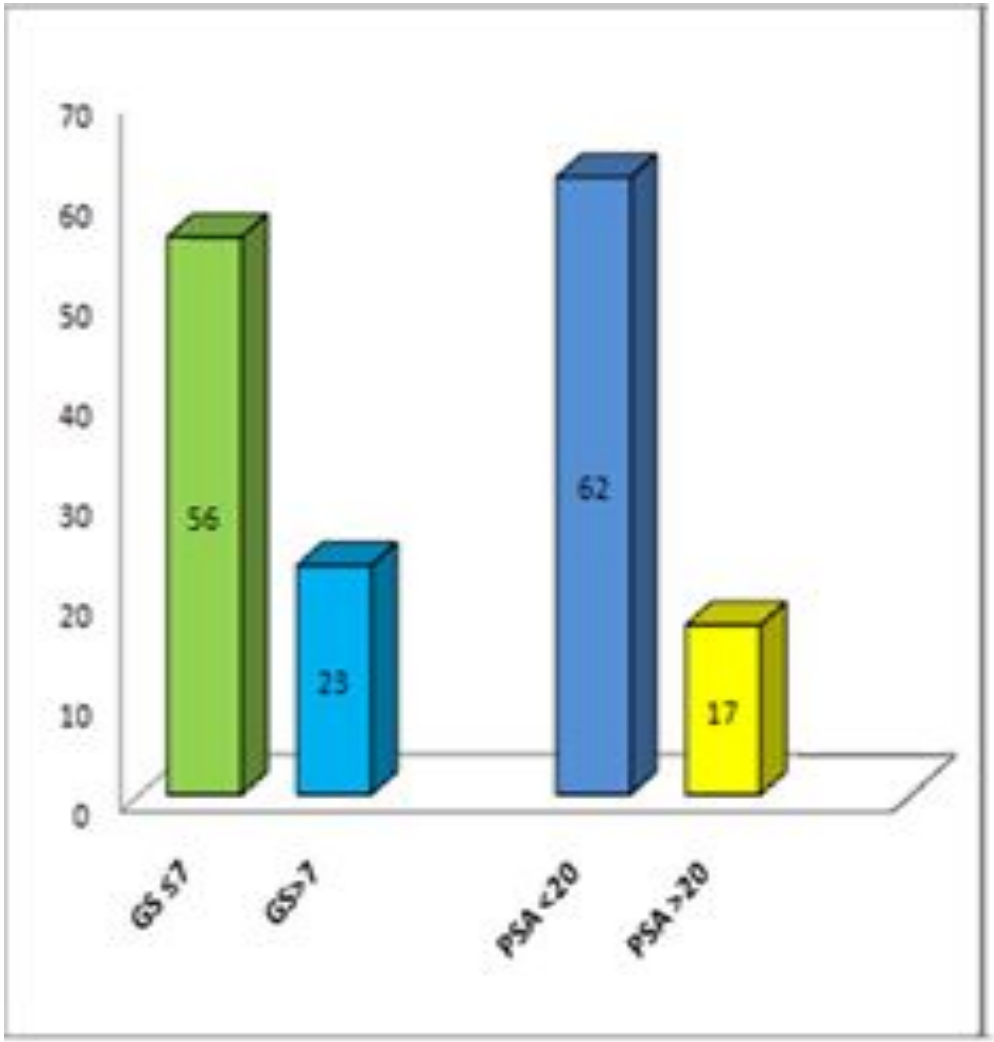
Materiali e metodi (3)

Distribuzione del T in funzione delle classi di rischio



Materiali e metodi (4)

Distribuzione in frequenza di Gleason Score e PSA



GPS

56/79 (70,9%) GPS ≤ 7

23/79 (29,1%) GPS > 7

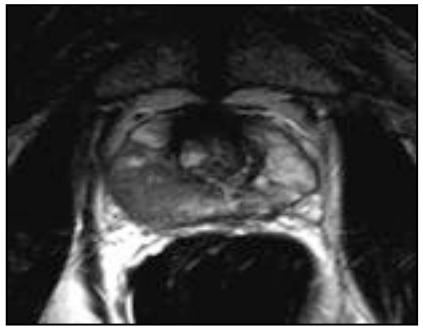
PSA

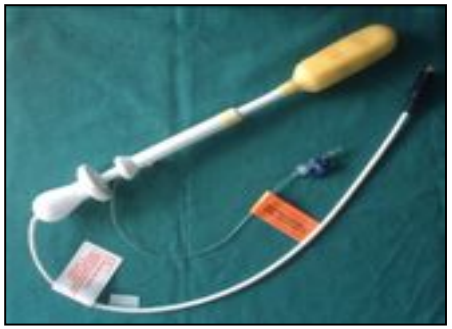
62/79 (78,5%) PSA ≤ 20

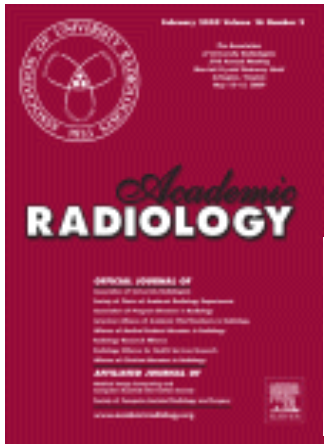
17/79 (21,5%) PSA > 20

Materiali e metodi (5)

59 pazienti **RMN Pelvi 1.5 T con bobina endorettale**







ORIGINAL ARTICLE

Comparative Evaluation Between External Phased Array Coil at 3 T and Endorectal Coil at 1.5 T

Preliminar Results

Pietro Torricelli, MD, Francesco Cinquantini, MD,* Guido Ligabue, MD,* Giampaolo Bianchi, MD,† Pamela Sighinolfi, MD,‡ and Renato Romagnoli, MD**

Objective: The aim of this study was to compare the image quality and the diagnostic accuracy of endorectal coil 1.5 T MRI (eMRI) and phased-array coil 3 T MRI (3-T MRI) in the pathorapeutic staging of prostatic cancer.

J Comput Assist Tomogr 2006;00:00–00)

Magnetic resonance imaging evaluation of prostate has improved during the last few years mainly because of the introduction of endorectal coils, which significantly increase the signal-to-noise ratio and enable an accurate assessment of prostate cancer. Although their role in the work up of patients is

3-T MRI with Phased-array Coil in Local Staging of Prostatic Cancer

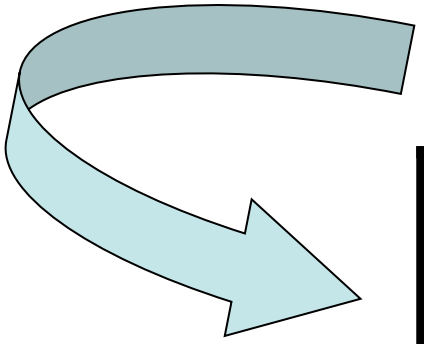
P. Torricelli, A. Barberini, F. Cinquantini, M. C. Sighinolfi, A. M. Cesinaro.

Acad Radiol 2008; 15:1118–1125

20 pazienti **RMN 3T (studio clinico)**

Risultati (1)

sui 79 pazienti studiati

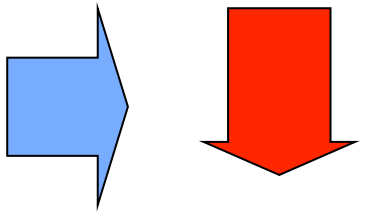


Upgrading in 42/79 (53%)

(2 pazienti riscontro di N clinico)

Classe T iniziale	Classe T post RMN	Nr pz
cT1	cT2a-c	15
	cT3a-b	12
cT2b-c	cT3a-b	14
cT3a	cT3b	1

33 pazienti rischio intermedio



alto rischio

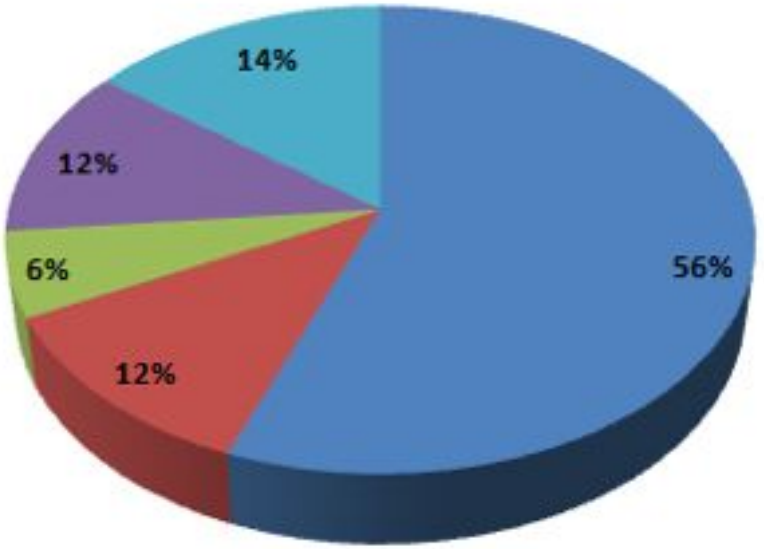
37 pazienti no change

Risultati (2)

VARIAZIONI DOPO RMN....

PIANIFICAZIONE DEL TRATTAMENTO RT

TERAPIA ORMONALE

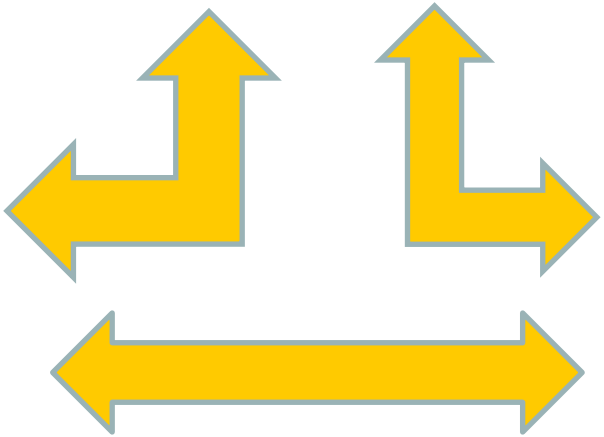


- MODIFICA VOLUMI RT
- MODIFICA PRESCRIZIONE DI DOSE RT
- MODIFICA VOLUMI E DOSI
- AGGIUNTA OT A RT
- MODIFICA VOLUMI E DOSI + OT

CONCLUSIONI …

I risultati della nostra casistica hanno confermato che l'utilizzo della RMN pelvica in pazienti affetti da Pca a rischio intermedio/alto

- **Può consentire un «upgrading» delle classi TNM.**
- **Può determinare un «upstaging» in termini di classi di rischio**
- **Può avere un ruolo importante nel modificare i programmi terapeutici**



ORMONOTERAPIA

RADIOTERAPIA