ttamento delle metastasi ossee nel paziente con tumore della prostata resistente alla castrazione (mCRPC)
– Valutazione della Risposta

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XXV Congresso Nazionale AIRO
08/11/2015 - Rimini

DICHIARAZIONE

Relatore: Sergio Baldari

e da nuova regolamentazione della Commissione Nazionale per la Formazione Continua del Ministero della Salute, è richiesta la trasparenza delle fonti di finanziamento e d
orti con soggetti portatori di interessi commerciali in campo sanitario.

sizione di dipendente in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE /**

nsulenza ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE**

ndi per la ricerca da aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE /**

rtecipazione ad Advisory Board **(Bayer)**

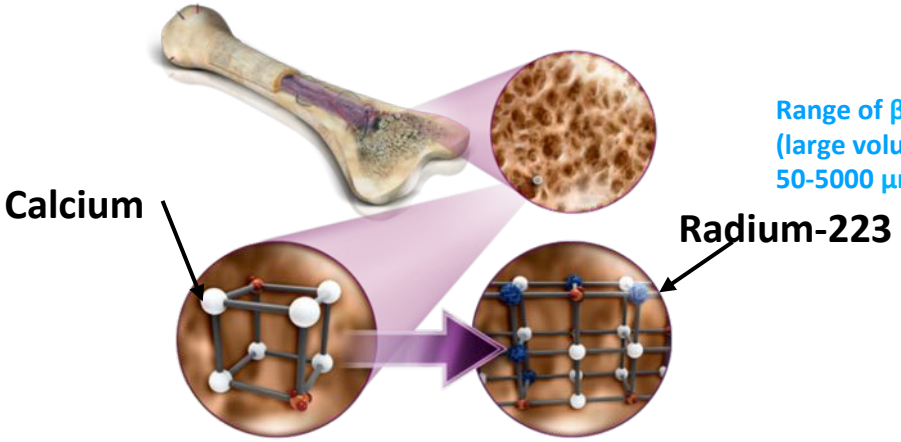
olarietà di brevetti in compartecipazione ad aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE /**

tecipazioni azionarie in aziende con interessi commerciali in campo sanitario **(NIENTE DA DICHIARARE /**

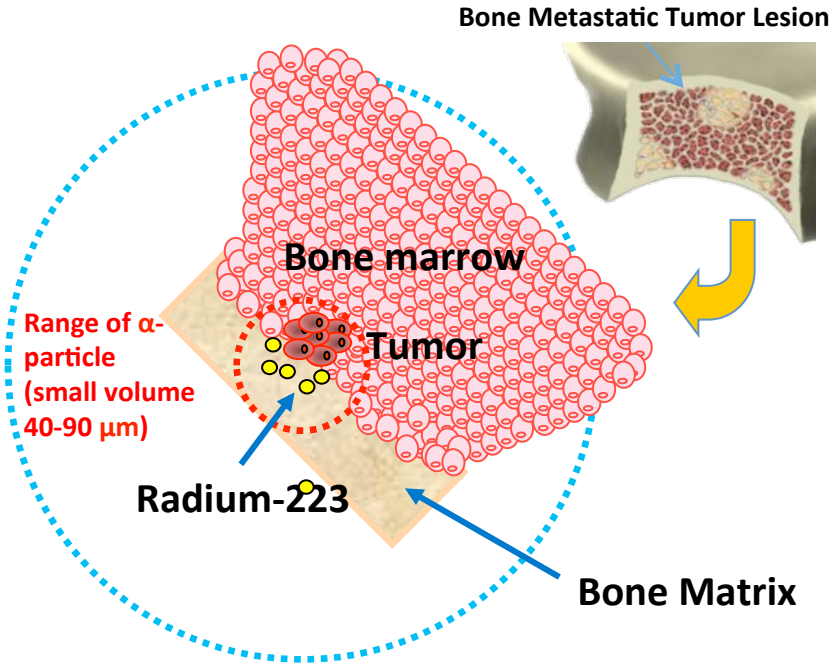
Characteristics of Ra-223

- A radioactive isotope of the alkaline earth metal radium, therefore a calcium mimetic
- Incorporates into bone mineral hydroxyapatite
- Preferential uptake in areas of new bone formation
- Has a half-life of 11.4 days
- Primarily an alpha-particle emitter
  - ~94% emitted as alpha-particles
  - ~4% emitted as beta-particles
  - ~2% emitted as gamma rays

Impossibile visualizzare l'immagine. La memoria del computer potrebbe essere insufficiente per aprire l'immagine oppure l'immagine potrebbe essere danneggiata. Riavviare il computer e aprire di nuovo il file. Se viene visualizzata di nuovo la x rossa, potrebbe essere necessario eliminare l'immagine e inserirla di nuovo.

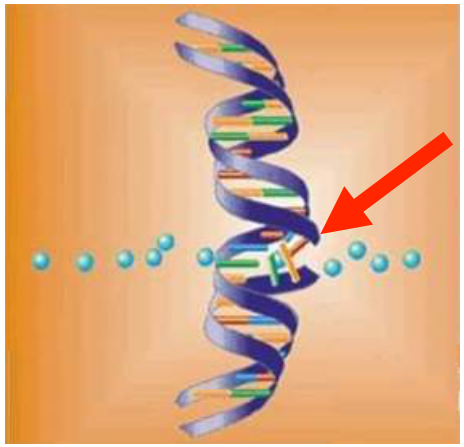


Range of β-particle (large volume 50-5000 µm



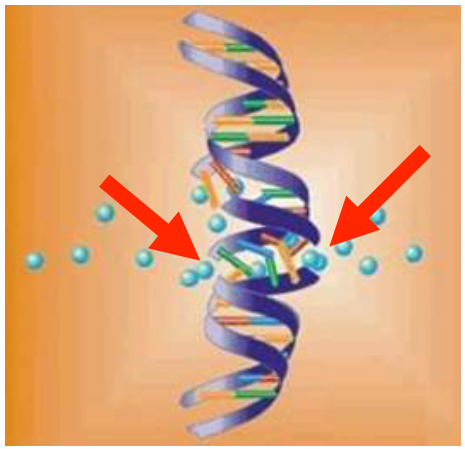
α-Particles cause lethal double-strand DNA breaks

β-emitters



- Low-LET β-radiation → single-strand DNA breaks
- Single-strand breaks: easily repaired using the opposite strand as a template
- Single-strand breaks → less likely to induce cell death

α-emitters



- High-LET α-particles → double-strand DNA breaks
- Double-strand breaks: difficult to repair
- Failure to repair → to apoptosis
- Misrepaired double-strand breaks → chromosomal aberrations → mitotic cell death

Biodistribution

- Radium-223 dichloride goes to the target immediately after IV administration

More than 75% of the activity had left the blood and plasma at 15 minutes after injection

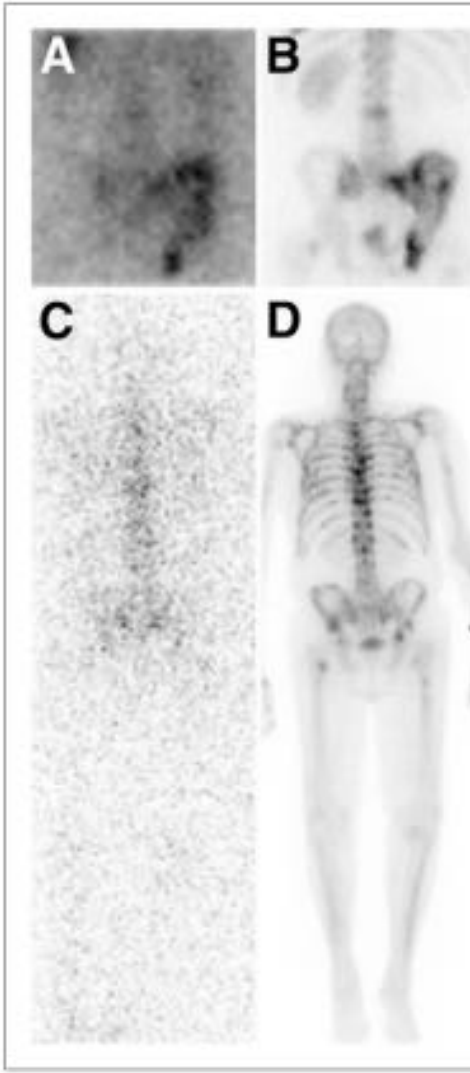
- Only 4 ± 1% (range 2–6%) of the activity remained in the blood at 4 hours post injection, decreasing to less than 1% at 72 hours

Radium 223 selectively targeted bone tissue and was localized in areas of increased bone formation in bone metastases

The remainder was rapidly eliminated, predominantly via the GI tract

No specific renal, urinary bladder, cardiac, gallbladder, or splenic uptake was visible on scintillation camera images

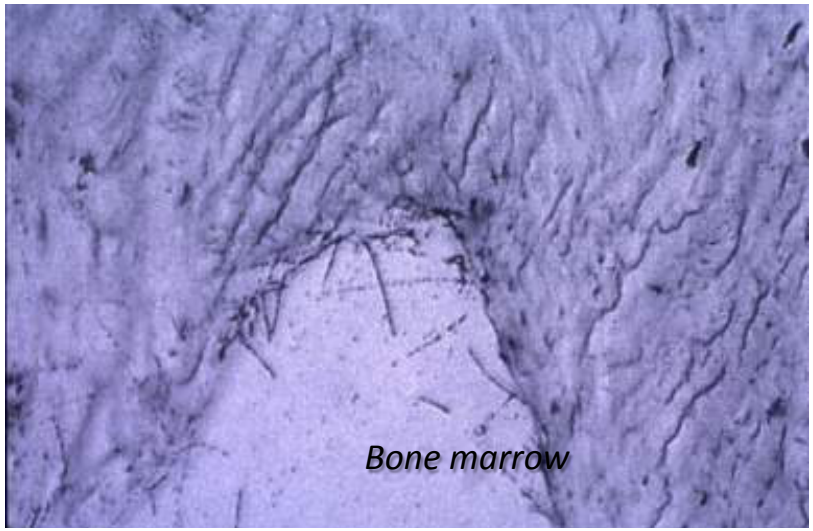
- ~ 60% of activity injected is taken up in bone by 4 hours
- ~ 75% excreted within 1 week
- < 5% excreted through urine (low renal and bladder adsorbed doses)



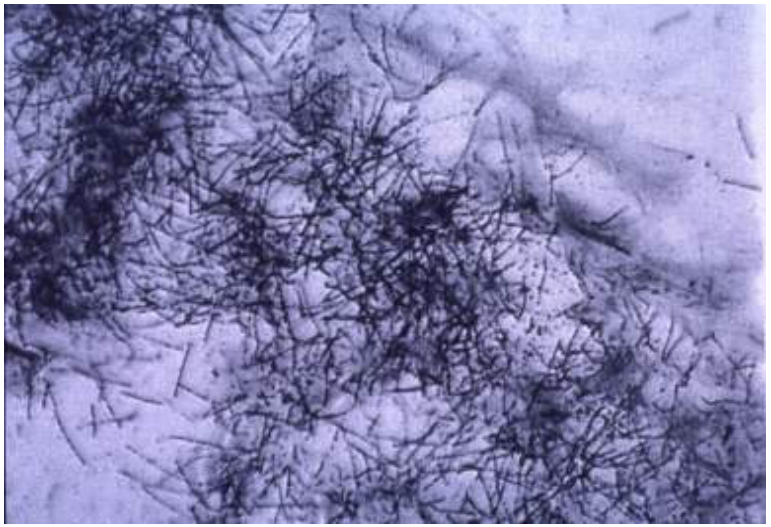
Radium 223 Is a Bone-Seeking Radionuclide

Radium 223 has preferential uptake in areas of new bone formation

Normal spongious bone



Osteoblastic zone

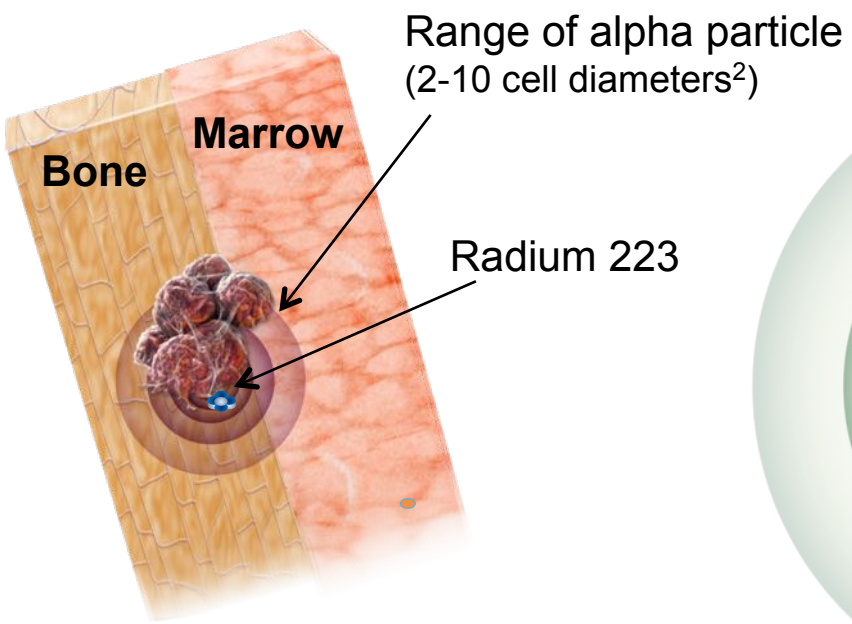


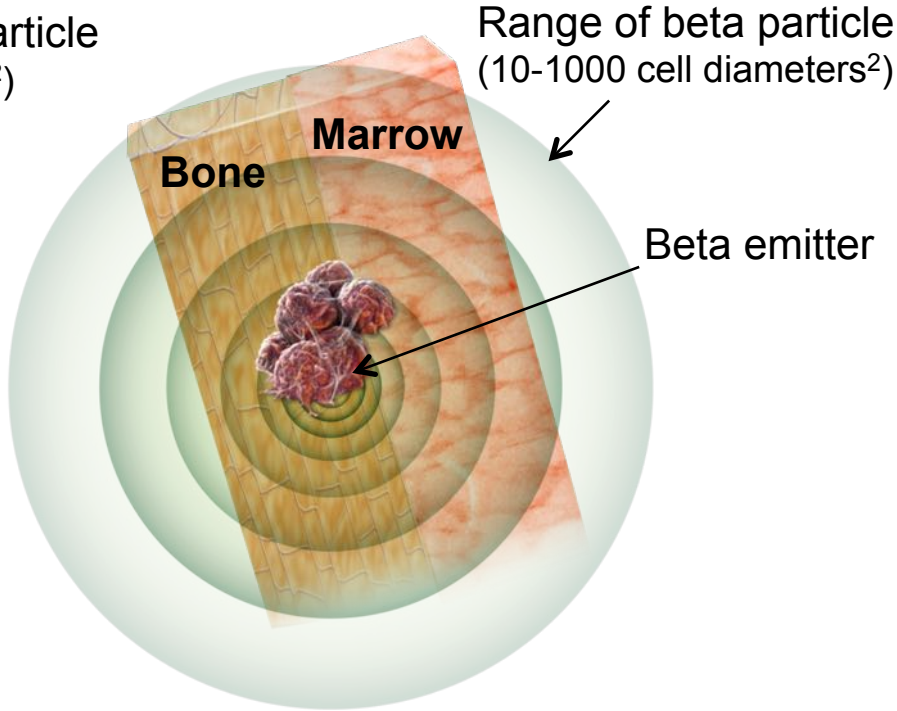
Microautoradiography from a dog injected with radium 223
Distribution of α-particle tracks in normal spongious bone and an osteoblastic zone

Bruland OS, et al. *Clin Cancer Res*. 2006;12:6250s-6257s.

Short range of alpha-emitters reduces bone marrow exposure

	Beta	Alpha
Range in tissue (µm)	50–12 000	40–100
Relative particle mass	1	7000
DNA hits for cell kill	>1000	1–4





Bruland ØS et al. Clin Cancer Res 2006;12:6250s–7s; Henriksen G et al. Cancer Res 2002;62:3120–5

ndomized, Double-Blind, Dose-Finding, Multicenter, e 2 Study of Radium Chloride (Ra 223) in Patients with Metastases and Castration-Resistant Prostate Cancer

pher C. Parker[a,*], Sarah Pascoe[b], Aleš Chodacki[c], Joe M. O'Sullivan[d], Josep R. Germá[e],

Table 3 – Number of treatment-related adverse events and total number of hematology events reported up to week 24 by dose group and Common Toxicity Criteria safety grade (safety population)

Parameter	Ra 223 dose group											
	25 kBq/kg, *n* = 41				50 kBq/kg, *n* = 39				80 kBq/kg, *n* = 42			
CTC safety grade	1	2	3	4	1	2	3	4	1	2	3	4
Treatment-related AEs by system organ class												
Gastrointestinal disorders[a]	16	2	–	–	18	–	–	–	20	2	1	–
General disorders and administration site conditions	5	2	–	–	10	5	–	–	6	1	–	–
Blood and lymphatic system disorders[b]	1	3	–	–	–	3	3	1	2	6	1	–
Investigations[c]	–	–	2	–	3	2	1	1	–	3	–	–
Musculoskeletal and connective tissue disorders[d]	–	–	–	–	2	–	1	–	–	2	1	–
Metabolism and nutrition disorders	1	–	–	–	–	2	–	–	2	–	–	–
Nervous system disorders	–	–	–	–	2	–	–	–	–	2	–	–
Skin and subcutaneous tissue disorders	–	–	–	–	1	1	–	–	–	1	–	–
Total treatment-related AEs	23	7	2	0	36	13	5	2	30	17	3	0
Total hematology events												
White blood cell count	7	2	0	0	9	7	0	0	10	8	3	0
Neutrophils	16	0	0	0	12	7	0	0	11	8	1	0
Platelets	5	1	1	0	8	1	0	1	10	2	1	0
Hemoglobin	18	12	1	0	18	8	4	1	21	14	1	1

AE = adverse event; CTC = Common Toxicity Criteria.

[a] One case of grade 3 constipation was reported in the 80-kBq/kg group.

[b] All reported grade 3 or 4 AEs were classified as anemia.

[c] One case each of grade 3 decreased hemoglobin or platelet counts occurred in the 25-kBq/kg group; decreased hemoglobin (grade 3) and decreased platelet counts (grade 4) occurred in the 50-kBq/kg group.

[d] All reported grade 3 AEs were classified as bone pain.

e cancer (CRPC) and
tments that improve qu

ty of three different dos
metastases.
ble-blind multicenter st
of Ra 223 at 6-wk inter
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was evaluated using b
d skeletal-related events
nts (AEs), physical exam
test assessed trends betv

d point with a statisti
PSA declines for no pati
0-kBq/kg dose group, and
). A ≥50% decrease in
(16%), 24 patients (67%)
ps, respectively ($p < 0.0$
up to week 24 across all
%). No difference in incid
tial limitations include s
aseline.
m markers of CRPC acti
fect cancer-related outco

Treatment-Related Adverse Events (AEs) Reported during the Designated ALSYMPCA Follow-up

ALSYMPCA Follow-up, n (%)	Radium-223 (n = 404*)		Placebo (n = 167*)	
	All Grades	Grades 3/4	All Grades	Grades 3/4
Hematologic AEs				
Anemia	11 (3)	5 (1)	5 (3)	1 (<1)
Aplastic anemia	1 (<1)	1 (<1)	0	0
Leukopenia	2 (<1)	2 (<1)	0	0
Neutropenia	2 (< 1)	2 (<1)	0	0
Thrombocytopenia	4 (1)	0	0	0
Nonhematologic AEs				
Cardiopulmonary failure	0	0	1 (<1)†	0
Nausea	0	0	1 (<1)	0
Fatigue	0	0	1 (<1)	0
General physical health deterioration	1 (<1)	0	0	0
Multiorgan failure	1 (<1) †	0	0	0
Pneumonia	1 (<1) †	0	0	0
Weight decrease	1 (<1)	0	0	0
Anorexia	1 (<1)	0	0	0
Musculoskeletal pain	1 (<1)	0	0	0
Pathologic fracture	2 (<1)	1 (<1)	0	0
Dizziness	1 (<1)	0	0	0
Primary Cancers	• Bladder cancer • Lymph node metastasis not originating from prostate		• Squamous cell carcinoma • Adenocarcinoma rectosigmoid • Skin cancer	

*Safety population
†Grade 5

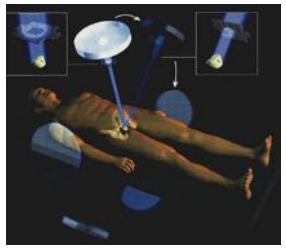
Alpha Radin e Valutazione della Risposta

inica - Personalizzata
on è Standardizzata
on è Temporizzata
on esistono indicatori certi
on è chiaro il ruolo dell'imaging

sistono tuttavia alcune evidenze…….

Faro del Montorsoli Punta San Ranieri -

RATTERISTICHE CLINICHE



Severe pain

Daily opioid use

Moderate pain

Occasional opioid use

Mild pain

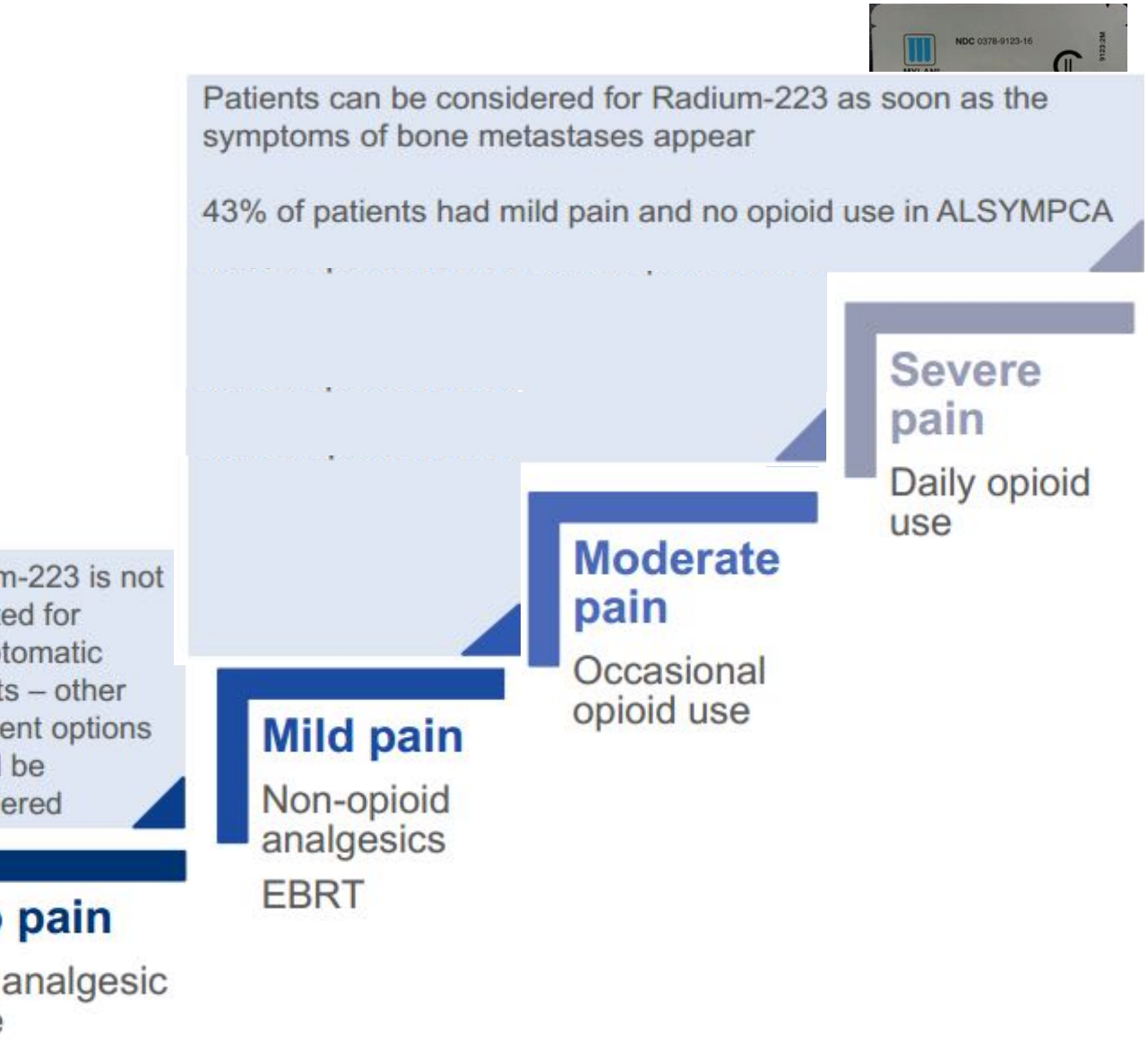
Non-opioid analgesics

EBRT

pain

analgesic

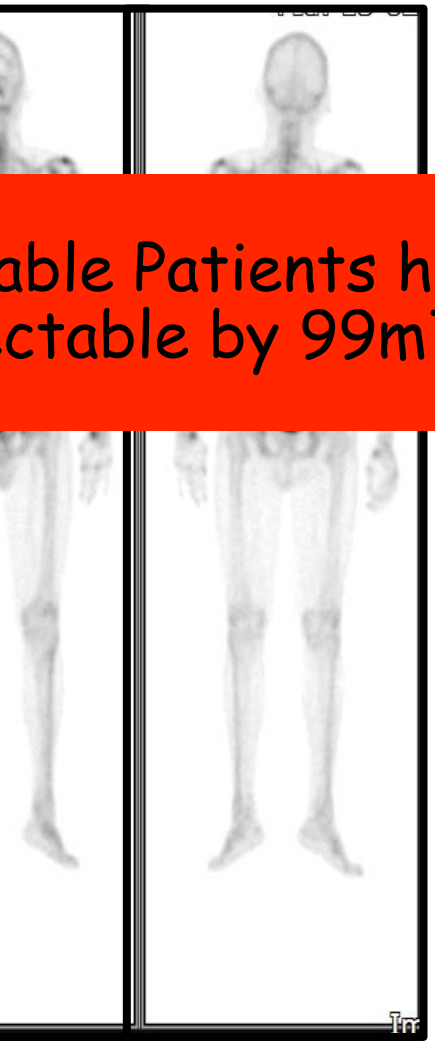
RATTERISTICHE CLINICHE



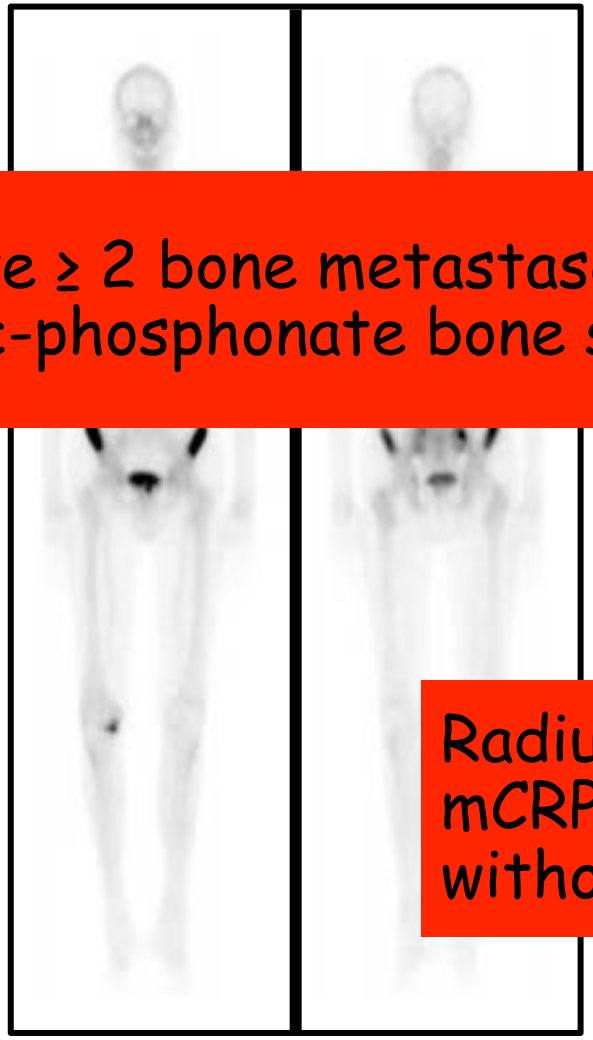
RATTERISTICHE CLINICHE

able Patients have ≥ 2 bone metastases
ctable by 99mTc-phosphonate bone scan

Radium-223 is indicated for patients with mCRPC and symptomatic bone metastases without visceral metastases



Patient 1:
No Metastasis



Patient 2:
> 2 Metastasis

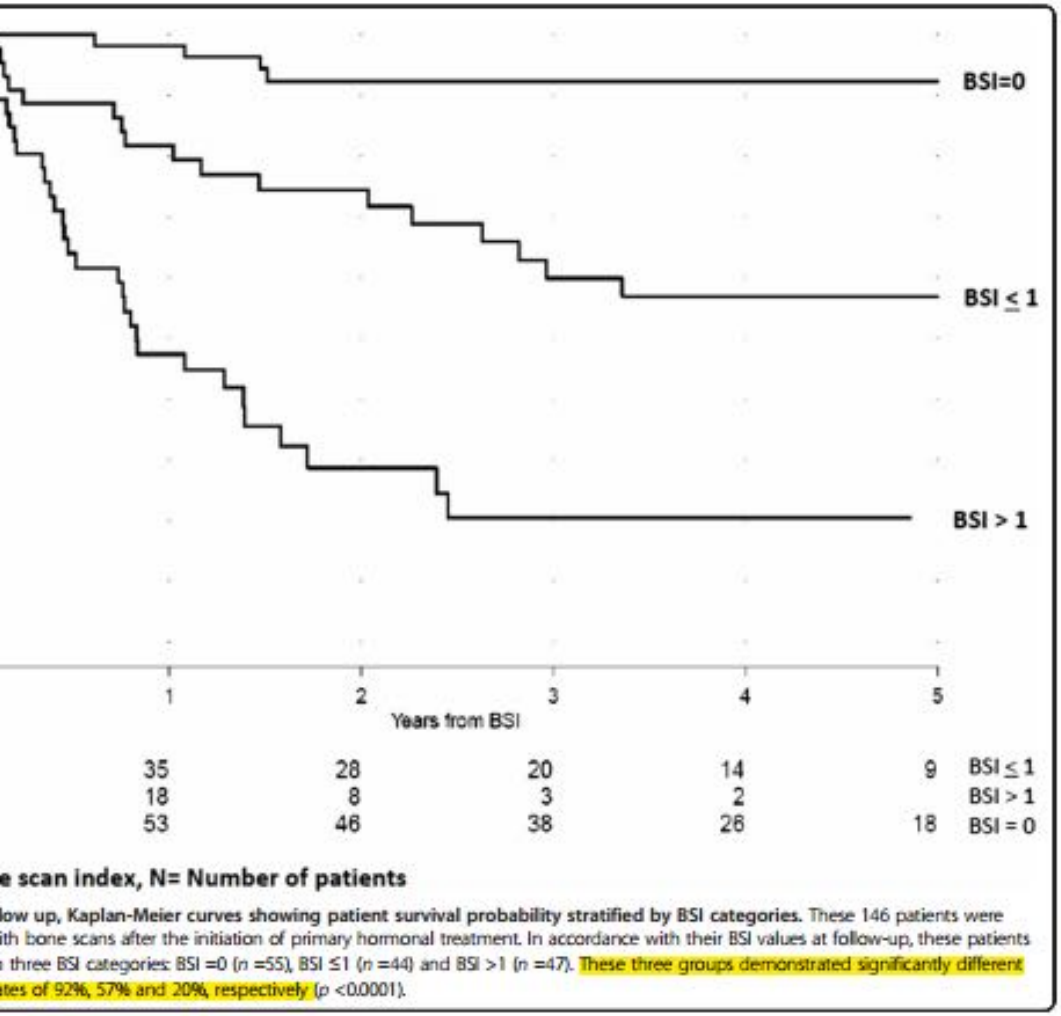
Patient 3:
> 20 Metastasis

Patient 4:
«SuperScan

ne Scan Index as a prognostic imaging marker during androgen deprivation therapy

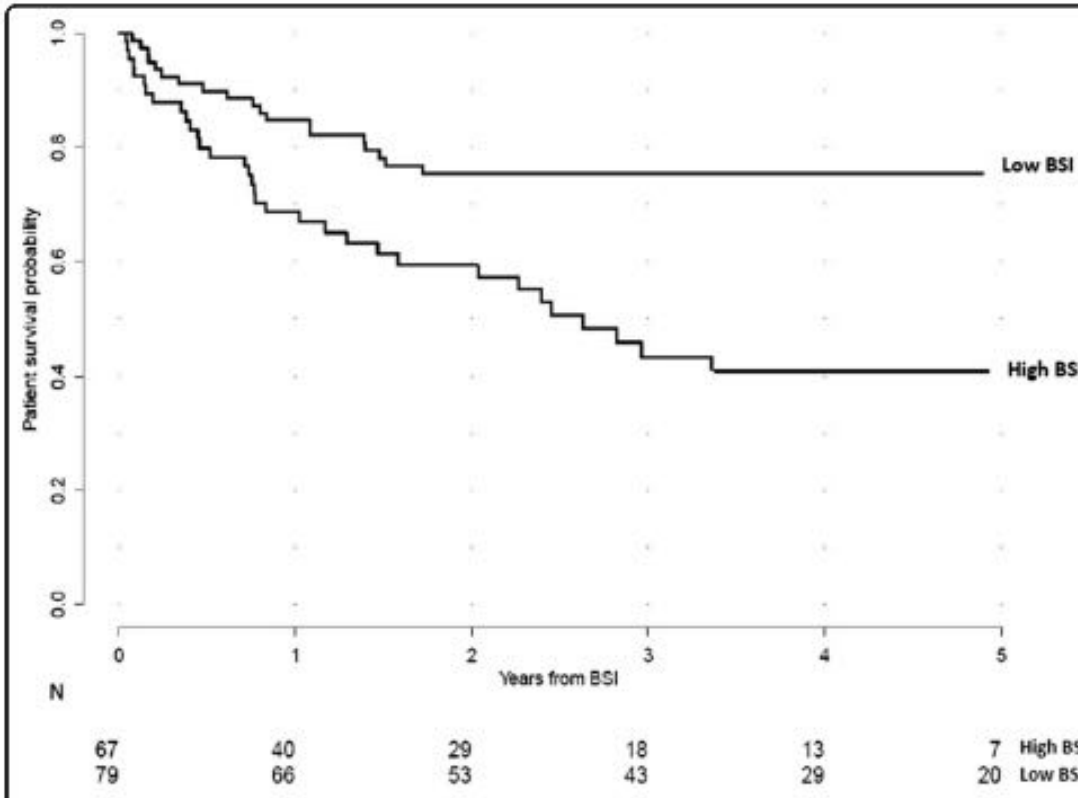
Reza[1*], Anders Bjartell[2], Mattias Ohlsson[3], Reza Kaboteh[4], Per Wollmer[1], Lars Edenbrandt[1,4]
Trägårdh[1]

Reza *et al. EJNMMI Research* 2014, **4**:58
http://www.ejnmmires.com/content/4/1/58



e scan index, N= Number of patients

low up, Kaplan-Meier curves showing patient survival probability stratified by BSI categories. These 146 patients were ith bone scans after the initiation of primary hormonal treatment. In accordance with their BSI values at follow-up, these patients three BSI categories: BSI =0 (*n* =55), BSI ≤1 (*n* =44) and BSI >1 (*n* =47). These three groups demonstrated significantly different tes of 92%, 57% and 20%, respectively (*p* <0.0001).



High BSI change = BSI Increase, Low BSI change = Stable BSI or BSI decrease, N= Number of patients

Figure 3 At follow-up, Kaplan-Meier curves showing patient survival probability stratified by BSI changes categories. BS changes from baseline to follow-up were evaluated among the 146 patients studied. In accordance with their BSI change values follow-up, these patients were classified in two BSI changes categories: High BSI change (BSI increase *n* =67) and low BSI chang (stable BSI or BSI decrease, *n* =79). These two groups demonstrated significantly different 5-year survival rates of 41% and 75%, respectively (*p* =0.0004).

Quality of life (QOL), updated survival, and safety of radium-223 dichloride in patients with castration-resistant prostate cancer (CRPC) with bone metastases from the phase 3 double-blind, randomized, multinational study (ALSYMPCA)

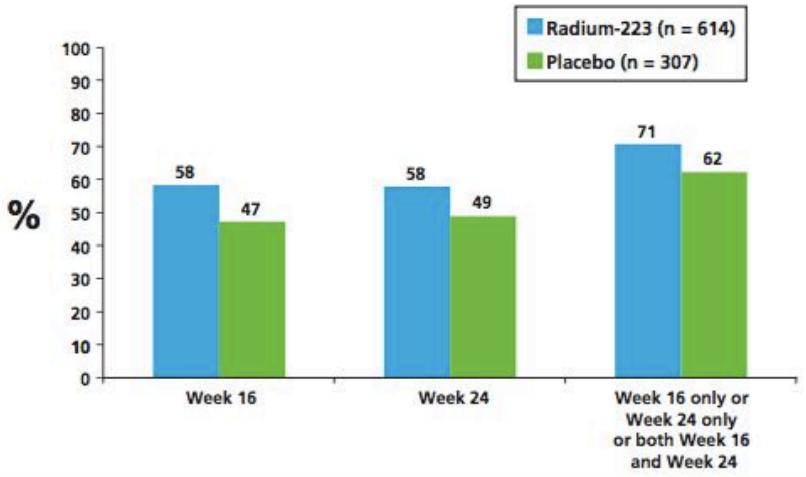
C. Parker,[1] R.E. Coleman,[2] S. Nilsson,[3] N. Vogelzang,[4] A. Lloyd,[5] K. Staudacher,[6] P. Cislo,[7] R. Van Gool,[8] O. Sartor[9]

[1]The Royal Marsden NHS Foundation Trust, Sutton, UK; [2]Weston Park Hospital, Sheffield, UK; [3]Karolinska University Hospital, Stockholm, Sweden; [4]Comprehensive Cancer Centers of Nevada, Las Vegas, NV, USA; [5]Oxford Outcomes, Oxford, UK; [6]Algeta ASA, Oslo, Norway; [7]Bayer HealthCare, Montville, NJ, USA; [8]Bayer HealthCare, Berlin, Germany; [9]Tulane Cancer Center, New Orleans, LA, USA

QOL FINDINGS

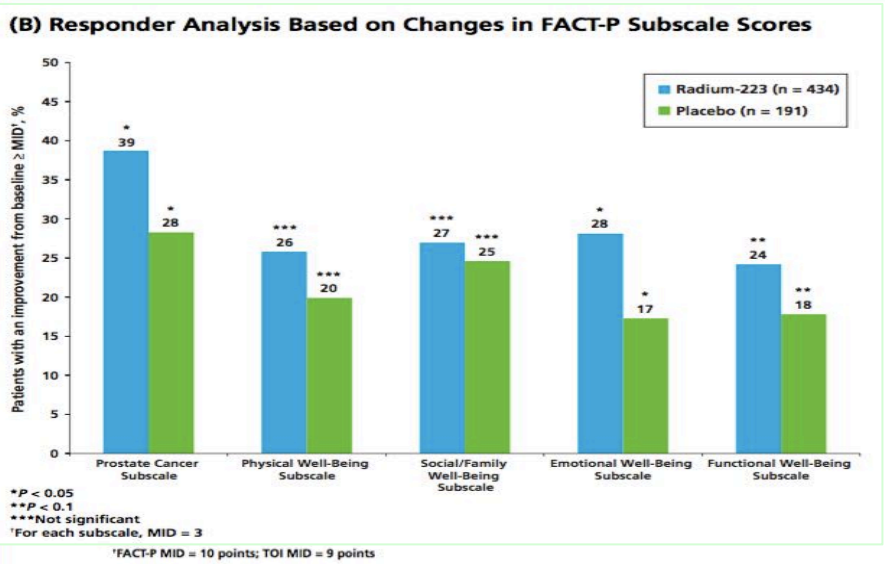
- The percentage of patients with a baseline QOL measurement and a QOL measurement at specified post-baseline visits shows that more patients in the radium-223 group than in the placebo group completed the QOL assessments (**Figure 1**)

Figure 1. Percentage of Patients Who Have a Baseline QOL Measurement and a QOL Measurement at the Specified Post-baseline Visits

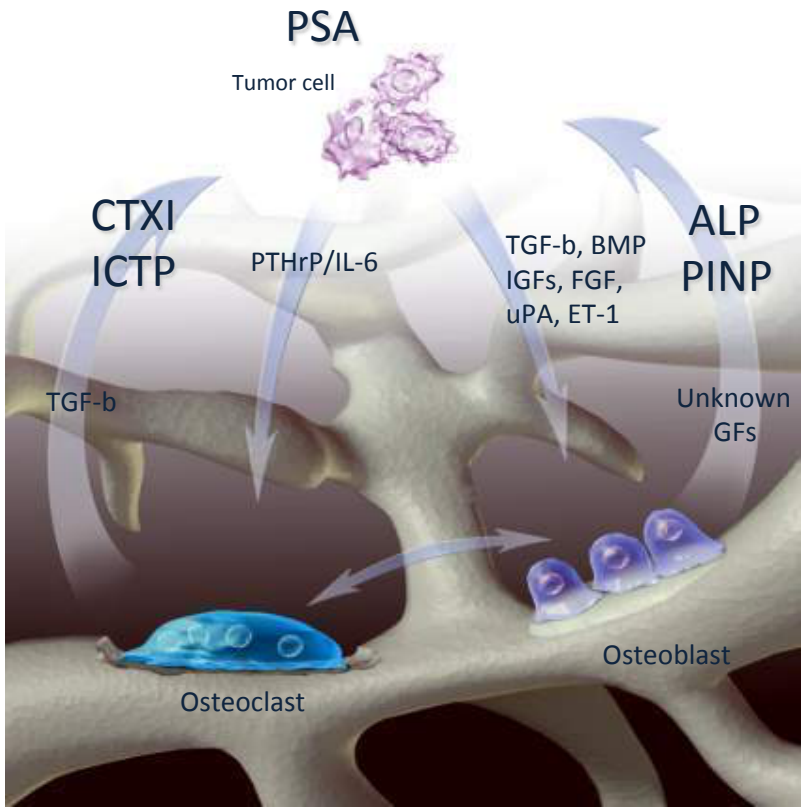


- There was a trend toward improvement in all subscales of the FACT-P, with $P < 0.05$ for the PCS and EWB subscales (**Figure 2B**)

Figure 2. ALSYMPCA QOL Responder Analysis Based on Improvement (Minimally Important Difference; MID) in FACT-P Summary Scores (A) and Subscale Scores (B) at Week 16 and/or Week 24



Bone Metastases in Patients with Prostate Cancer



Underlying mechanisms

Factors are released by tumor cells that stimulate both osteoclast and osteoblast activity[1,2]

Excessive new bone formation occurs around tumor cell deposits, resulting in low bone strength and potential vertebral collapse[3]

Osteoclastic and osteoblastic activity releases growth factors that stimulate tumor cell growth, perpetuating the cycle of bone resorption and abnormal bone growth[4]

Bone biomarkers outlined are elevated

ALP, alkaline phosphatase; CTXI, cross-linked C-terminal telopeptides of type I collagen; ICTP, C-terminal telopeptides of type I collagen; PINP, amino-terminal procollagen propeptides of type I collagen; PSA, prostate-specific antigen.

1. Goltzman D. *Cancer*. 1997;80:1581-1587; 2. Adami S. *Cancer*. 1997;80:1674-1679;
3. Mundy GR. *Cancer*. 1997;80:1546-1556; 4. Boyce BF, Yoneda T, Guise TA. *Endocr Relat Cancer*. 1999;6:333-347.

ndomized, dose–response, multicenter phase II study dium-223 chloride for the palliation of painful metastases in patients with castration-resistant ate cancer ☆

S. Nilsson et al. / European Journal of Cancer 48 (2012) 678–686

son [a,l,*], P. Strang [b,l], A.K. Aksnes [c], L. Franzèn [d,e], P. Olivier [f], A. Pecking [g], furth [h], S. Vasanthan [i], C. Andersson [j], Ø.S. Bruland [k]

Abstract *Purpose:* To investigate the dose–response relationship and pain-relieving ef radium-223, a highly bone-targeted alpha-pharmaceutical

Methods: One hundre bone metastases were radium-223. The prim use), also used to clas

Results: A significant there were 40%, 63%, sumption) in the 5, 25 pain decreased by a n $P = .002$, and $P < .00$ improvement in the l .002 and .02, Wilcoxc tase in the highest dos erated.

Conclusion: Pain resp 2 weeks after adminis reported was confirm

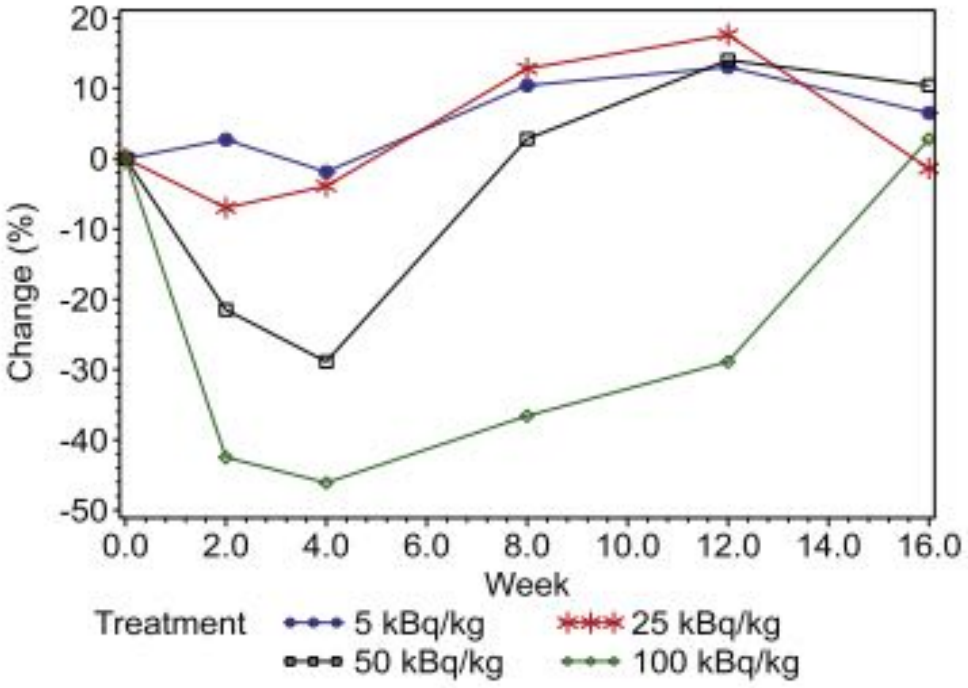


Fig. 3. Bone-alkaline phosphatase (ALP): median percentage chang from baseline (safety set).

ALSYMPCA phase 3 trial: main secondary endpoints

Main Secondary Efficacy End Points in the Intention-to-Treat Population.

int	Radium-223 (N=614)	Placebo (N=307)	Hazard Ratio (95% CI)	P Value
time to first symptomatic skeletal event — mo	15.6	9.8	0.66 (0.52–0.83)	<0.001
time to increase in total alkaline phosphatase l — mo	7.4	3.8	0.17 (0.13–0.22)	<0.001
time to increase in PSA level — mo	3.6	3.4	0.64 (0.54–0.77)	<0.001
s with ≥30% reduction in total alkaline phospha- response — no. /total no. (%)	233/497 (47)	7/211 (3)		
s with normalization of total alkaline phospha- level — no./total no. (%)*	109/321 (34)	2/140 (1)		

tients who had elevated total alkaline phosphatase levels at baseline are included.

All main secondary efficacy endpoints
benefit of radium 223 (+ BSoC) over p

Appendix, respectively. In addition, a significantly higher proportion of patients in the radium-223 group than in the placebo group had a response according to the total alkaline phosphatase level (≥30% reduction, P<0.001) and normalization of this level (P<0.001). A 30% or greater reduction in PSA blood levels at week 12 was achieved in 16% of patients in the radium-223 group and in 6% of patients in the placebo group (P<0.001). This reduction was sustained 4 weeks after the last injection in 14% of patients in the radium-223 group and in 4% of patients in the placebo group (P<0.001).

ges in prostate-specific antigen, markers of bone metabolism one scans after treatment with radium-223

Scand J Urol, 2014; 49(3): 211–217
DOI: 10.3109/21681805.2014.982169

l Nome[1], Eivor Hernes[2], Trond Velde Bogsrud[2,5], Trine Bjøro [1,4] & Sophie D. Fossa[3]

Abstract

*Objective.*The aim of this study was to assess treatment-related changes in prostate-specific gen (PSA), total and bone alkaline phosphatase (total ALP, bone ALP), and changes on co tional bone scans in patients with metastatic castration-resistant prostate cancer (mCRPC bone metastases who received six cycles of radium-223 (Ra-223). *Materials and methods.* Ch in PSA, total ALP and bone ALP (≥30% increase or decrease), and changes on bone scans assessed before and after six monthly cycles of Ra-223 therapy (50 kBq/kg body weig 14 patients with mCRPC with bone metastases and four patients on placebo. *Results.*Post ment PSA increased by at least 30% in 11 out of 14 patients and remained stable in three ALP and bone ALP decreased in six and nine patients, respectively. In 10 out of 12 eval patients the uptake on post-treatment bone scan was reduced in lesions with high pretreat uptake, in 11 patients accompanied by the development of new or expanded bone le FACBC position emission tomography/computed tomography scans confirmed the grow new or expanded bone metastases in two patients. *Conclusions.*These observations suppo notion that Ra-223 kills tumour cells in metastases surrounded by highly proliferating o blasts, consistent with the reported survival benefit. The radiation effect in small tumour de not surrounded by increased osteoblast activity seems, however, insufficient, thus allo continuous tumour growth. Long-lasting PSA reductions are the exception rather than th during Ra-223 treatment, whereas alkaline phosphatases decrease more frequently. To im the overall anticancer effect, Ra-223 might be a valuable component of combination treatm

REPORT

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McNamara[1,2*] ar

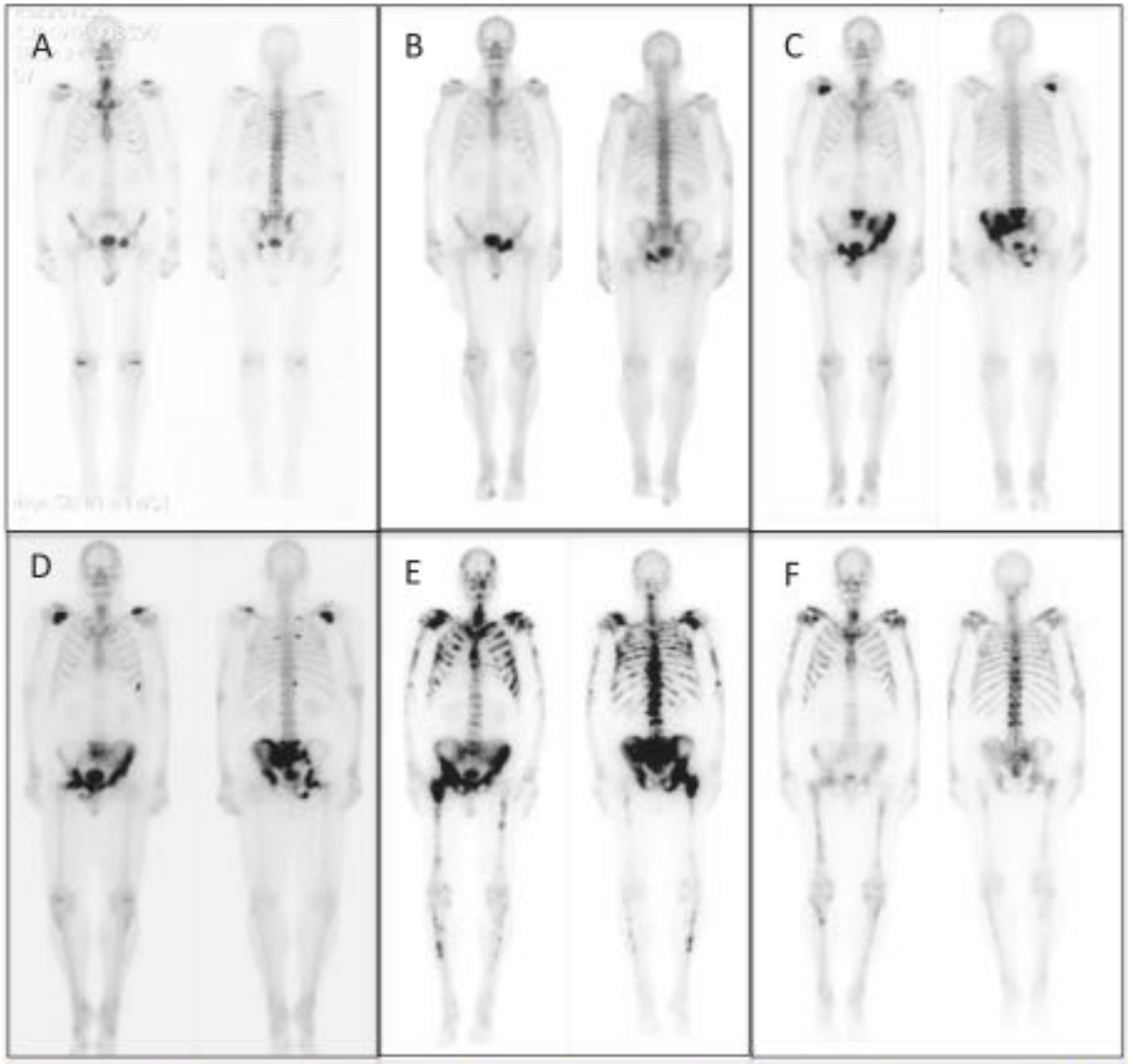

Figure 2 Radionuclide bone scan trend and response to radium-223. **A**. June 2008, metastatic prostate cancer diagnosis. **B**. May 2010, disease progression on combined androgen blockade. **C**. May 2011, disease progression following sipuleucel-T immunotherapy. **D**. December 2011, disease progression just prior to docetaxel chemotherapy. **E**. June 2013, widespread disease progression associated with severe diffuse bone pain on enzalutamide ("pre-radium-223"). **F**. February 2014, dramatic bone scan response two months after completing six treatments of radium-223 ("post-radium-223").

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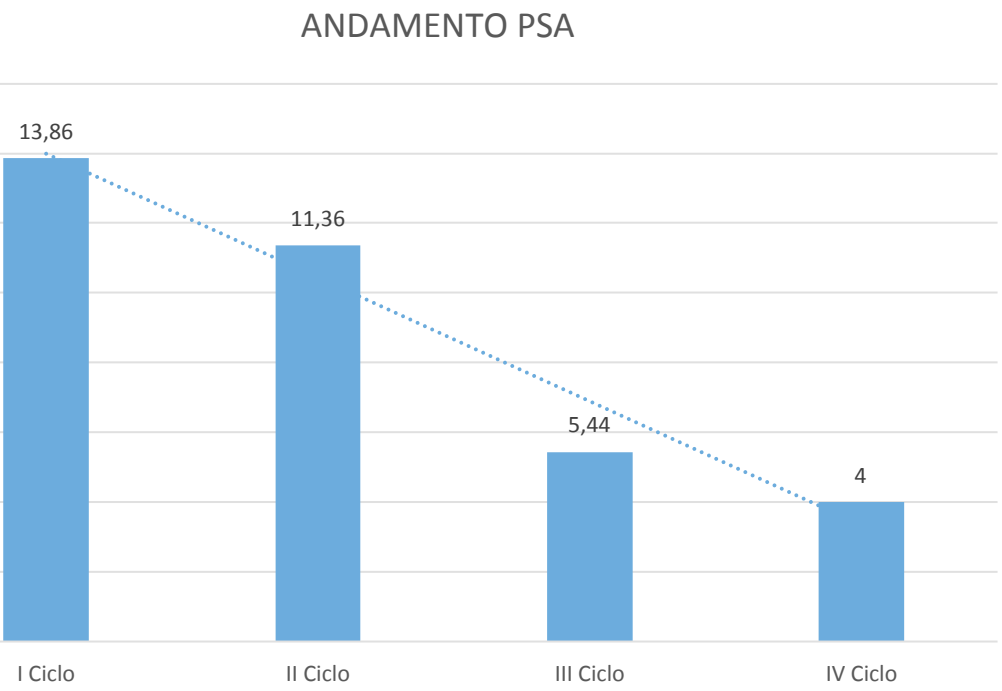
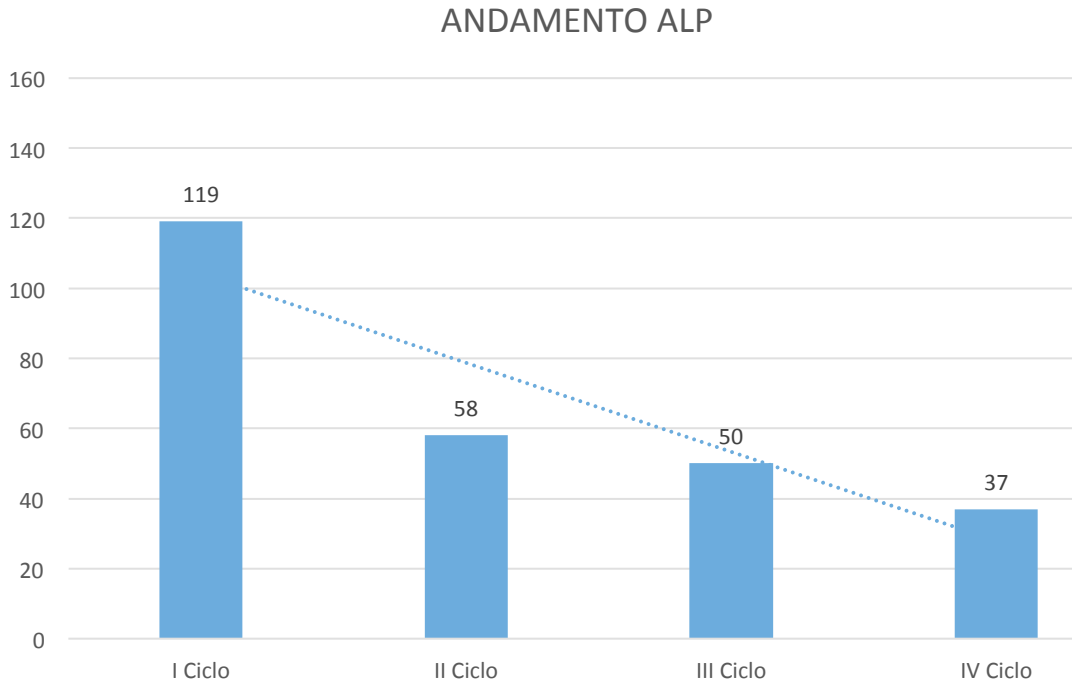
B.E. 69 Anni
Gleason 9 (4+5)
Terapia Antalgica: Targin, Tachipirina
No Evidenza di Malattia Viscerale
Maggior dolore presente al tratto L-S
In terapia con **223Ra-Cl** dal Luglio 2015 (1 ciclo ogni 4 settimane circa)

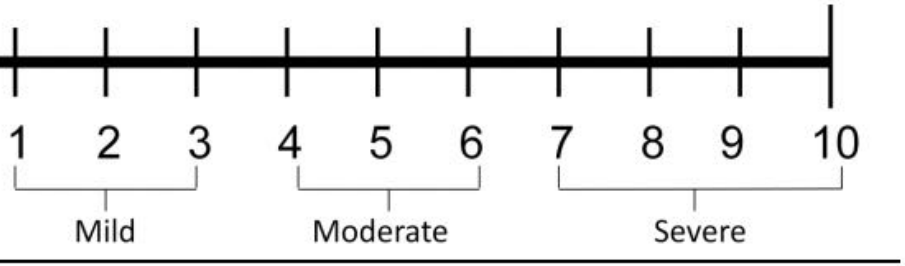
History
2015: 13.86 ng/ml (0-4) (I Ciclo)
o 2015: 11.36 ng/ml (0-4) (II Ciclo)
mbre 2015: 5.44 ng/ml (0-4) (III Ciclo)
re 2015: 5 ng/ml (0-4) (IV Ciclo)

ALP History
Luglio 2105: 119 U/L (I Ciclo)
Agosto 2015: 58 U/L (II Ciclo)
Settembre 2015: 50 U/L (III Ciclo)
Ottobre 2015: 37 U/L (IV Ciclo)





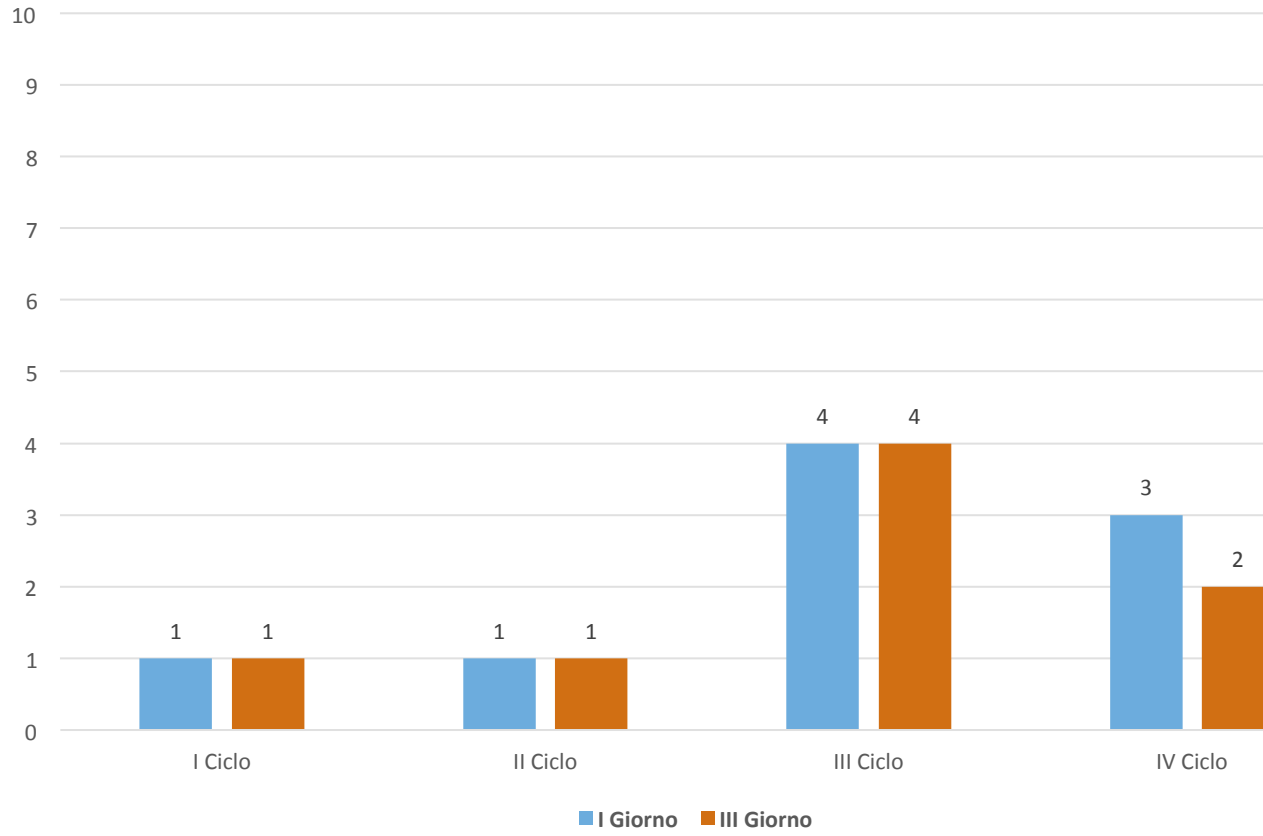
structions (adopted from (McCaffery, Beebe et al. 1989):
indicate the intensity of current, best, and worst pain levels over 24 hours on a scale of 0 (no pain) to 10 (worst pain imaginable)"



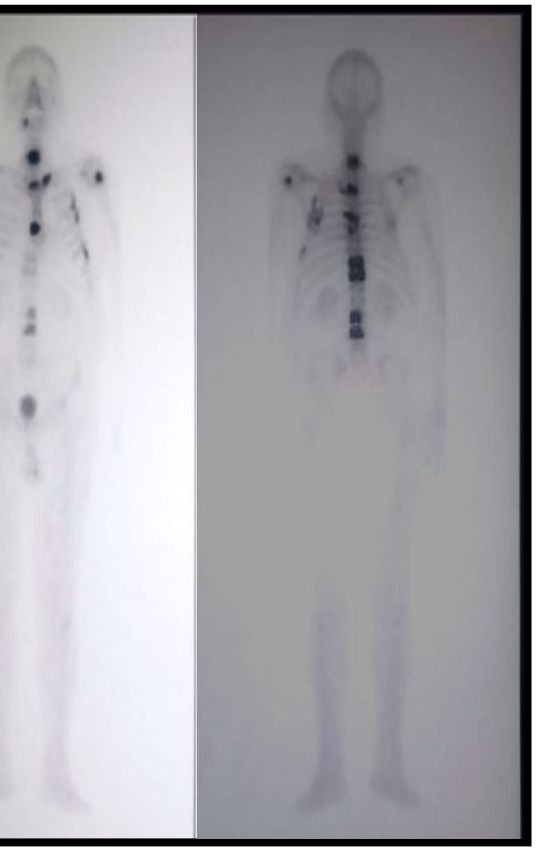
nce:
y, M., Beebe, A., et al. (1989). Pain: Clinical manual for nursing practice, Mosby St. Louis, MO.

NRS History
Luglio 2015 1 (I Ciclo)
Luglio 2015 1 (I Ciclo)
Agosto 2015 1 (II Ciclo)
Agosto 2015 1 (II Ciclo)
Settembre 2015 4 (III Ciclo)
Settembre 2015 4 (III Ciclo)
Ottobre 2015 3 (IV Ciclo)
Ottobre 2015 2 (IV Ciclo)

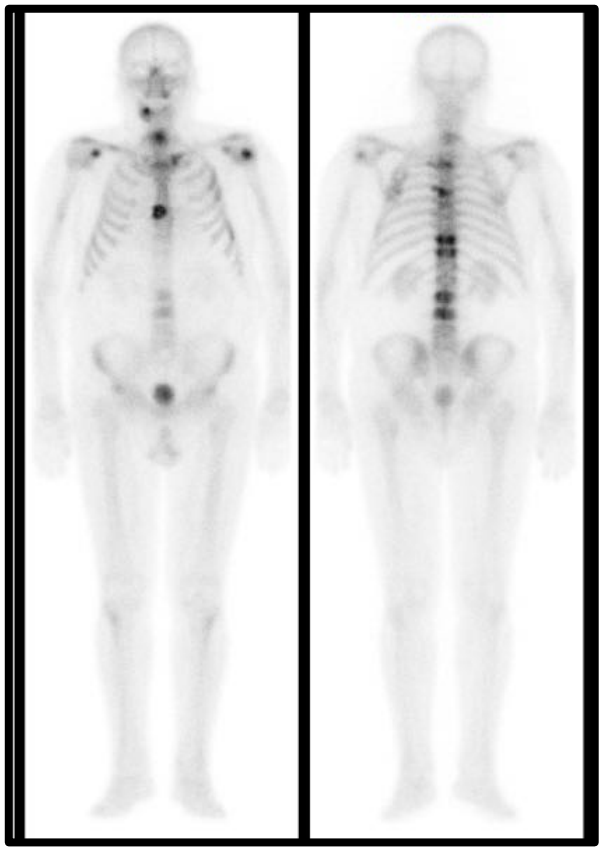
NRS PAIN SCALE



re-Trattamento



Controllo Dopo III Ciclo

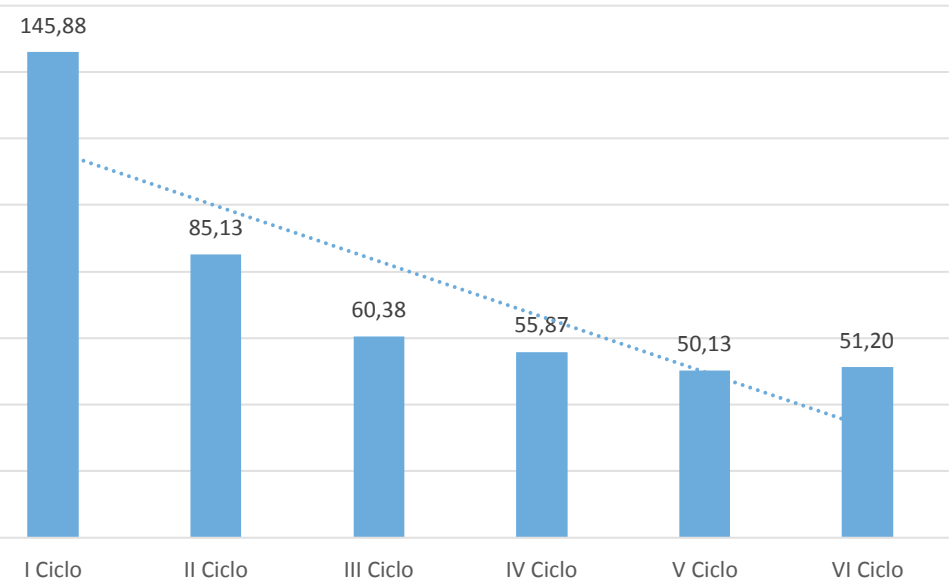


B.E. 69 Anni
Gleason 9 (4+5)
Terapia Antalgica: Targin, Tachipirina
No Evidenza di Malattia Viscerale
Maggior dolore presente al tratto L-S
In terapia con **223Ra-Cl** dal Luglio 2015 (1 cicl
settimane circa)

B.S. 69 Anni
Gleason: 9 (4+5)
Da Giugno ad Settembre 2014: 7 cicli Docetaxel
No Evidenza Malattia Viscerale
Terapia Antalgica: 2014 EBTR su art. coxofemorale si
In terapia con **223Ra-Cl** dall'Ottobre 2014 al Marzo 2
ciclo ogni 4 settimane circa)

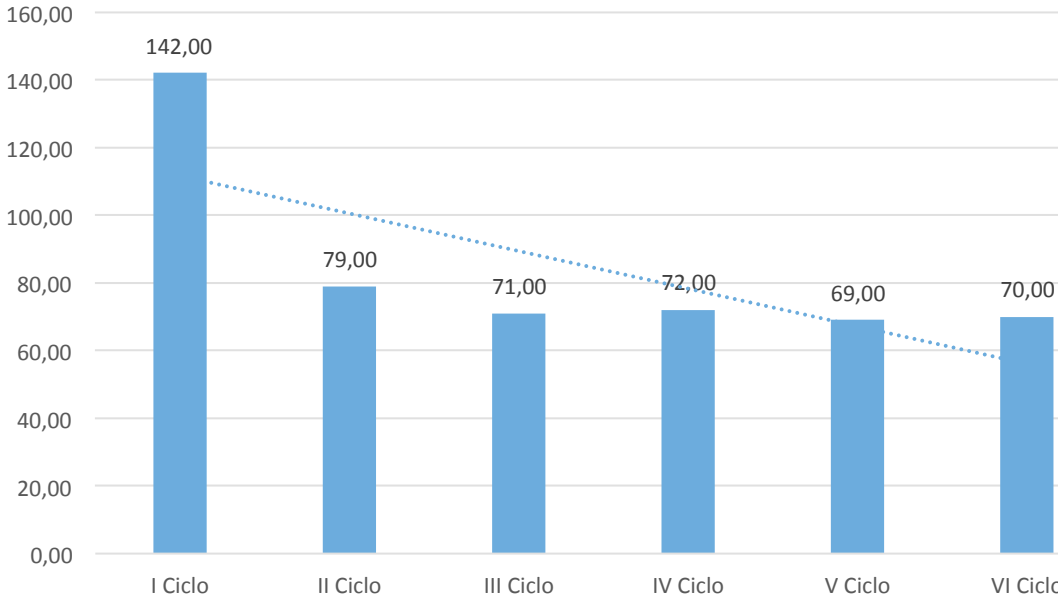
istory
re 2014: 145.88 ng/ml (0-4) (I Ciclo)
bre 2014: 85.13 ng/ml (0-4) (II Ciclo)
bre 2014 60.38 ng/ml (0-4) (III Ciclo)
o 2015: 55.87 ng/ml (0-4) (IV Ciclo)
aio 2015: 50.13 ng/ml (0-4) (V Ciclo)
2015: 51.20ng/ml (0-4) (VI Ciclo)

Andamento PSA



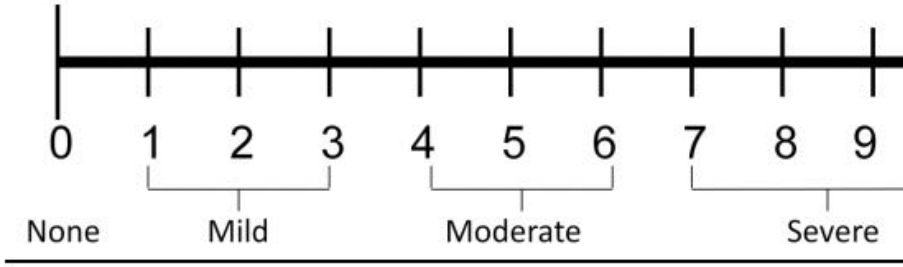
ALP History
Ottobre 2014: 142 U/L (I Ciclo)
Novembre 2014: 79 U/L (II Ciclo)
Dicembre 2014: 71 U/L (III Ciclo)
Gennaio 2015: 72 U/L (IV Ciclo)
Febbraio 2015: 69 U/L (V Ciclo)
Marzo 2015: 70 U/L (VI Ciclo)

ANDAMENTO ALP



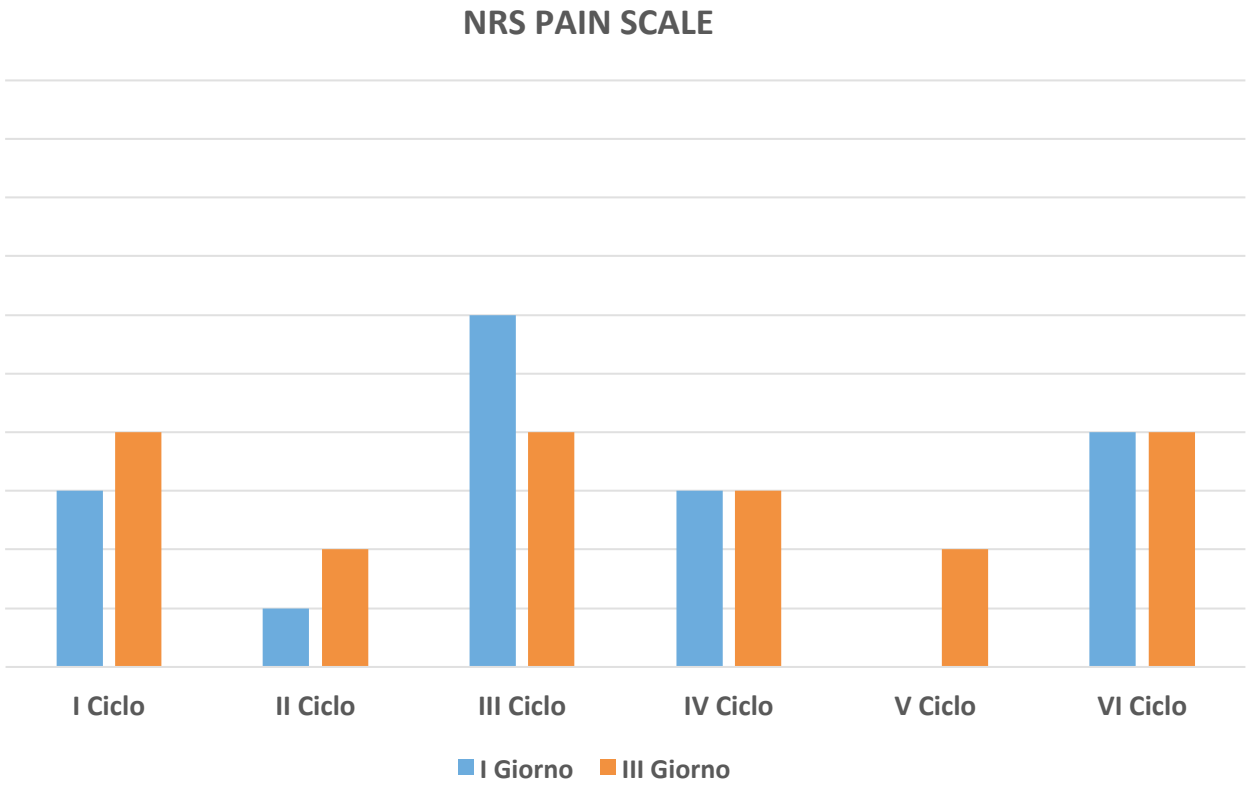
Patient Instructions (adopted from (McCaffery, Beebe et al. 1989):

"Please indicate the intensity of current, best, and worst pain leve
the past 24 hours on a scale of 0 (no pain) to 10 (worst pain imagi



Reference:

McCaffery, M., Beebe, A., et al. (1989). Pain: Clinical manual for nursing practice, Mosby St. L

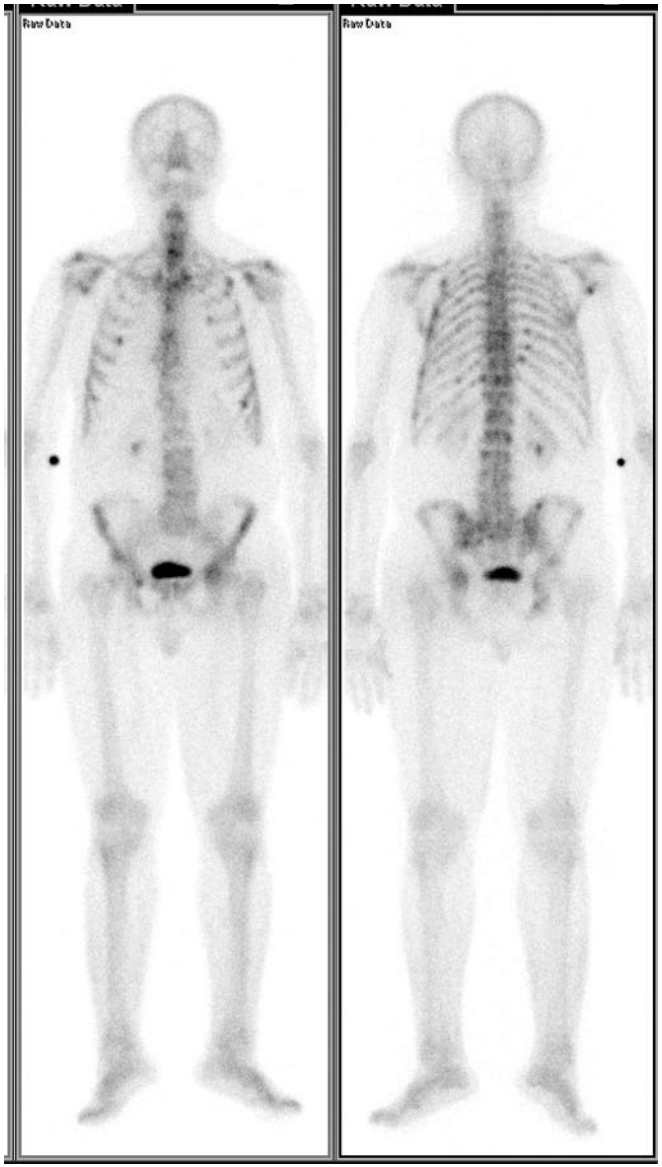


NRS History

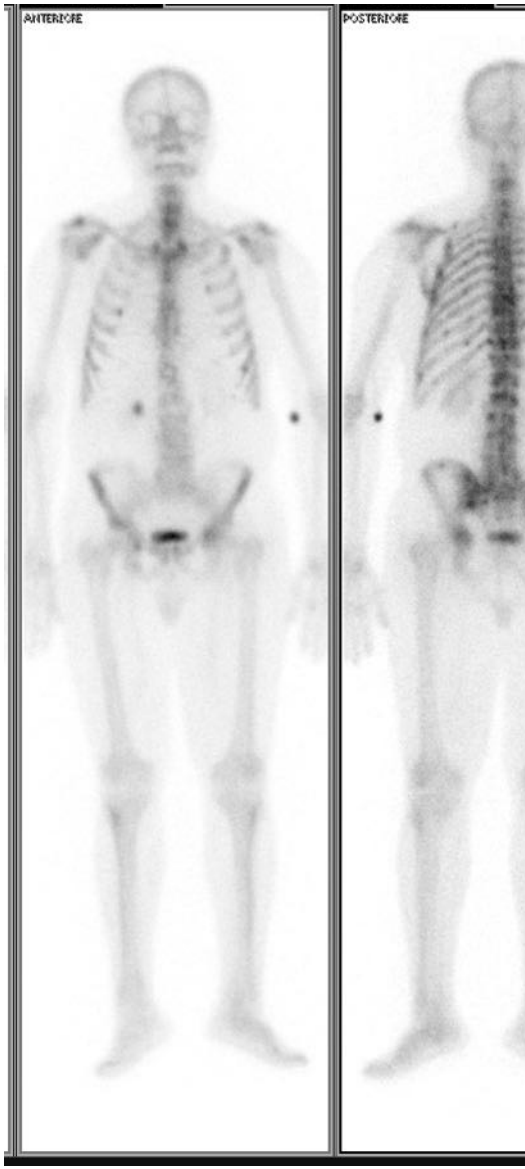
Ottobre 2014 3 (I Ciclo)
Ottobre 2014 4 (I Ciclo)
Novembre 2014 1 (II Ciclo)
Novembre 2014 2 (II Ciclo)
Dicembre 2014 6 (III Ciclo)
Dicembre 2014 4 (III Ciclo)
Gennaio 2015 3 (IV Ciclo)
Gennaio 2015 3 (IV Ciclo)
Febbraio 2015 0 (V Ciclo)
Febbraio 2015 2 (V Ciclo)
Marzo 2015 4 (VI Ciclo)
Marzo 2015 4 (VI Ciclo)

69 Anni
son: 9 (4+5)
Giugno ad Settembre 2014: 7 cicli
etaxel
Evidenza Malattia Viscerale
apia Antalgica: 2014 EBTR su art.
femorale sin.
erapia con **223Ra-Cl** dall'Ottobre 2014 al
zo 2014 (1 ciclo ogni 4 settimane circa)

Pre-Trattamento

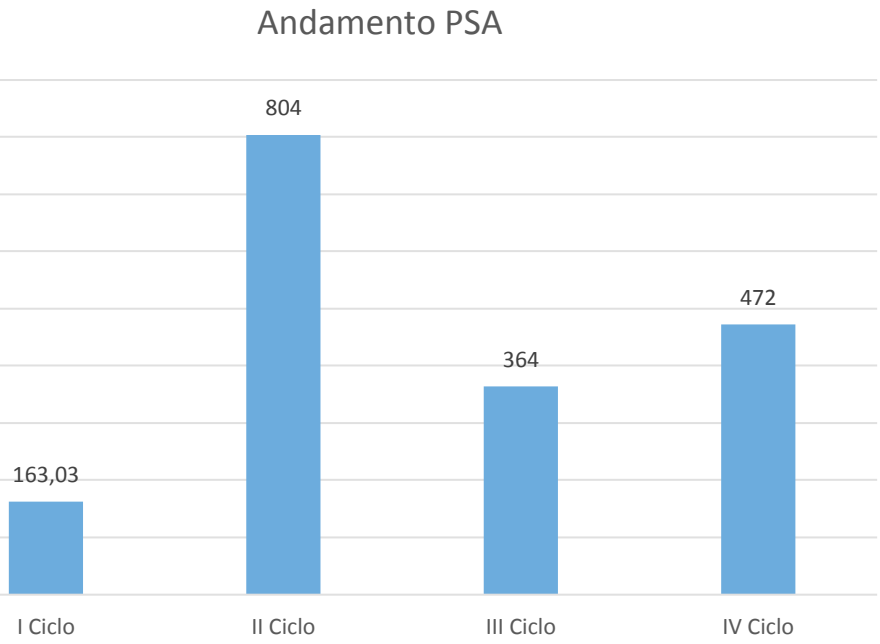


Controllo Dopo VI Ci

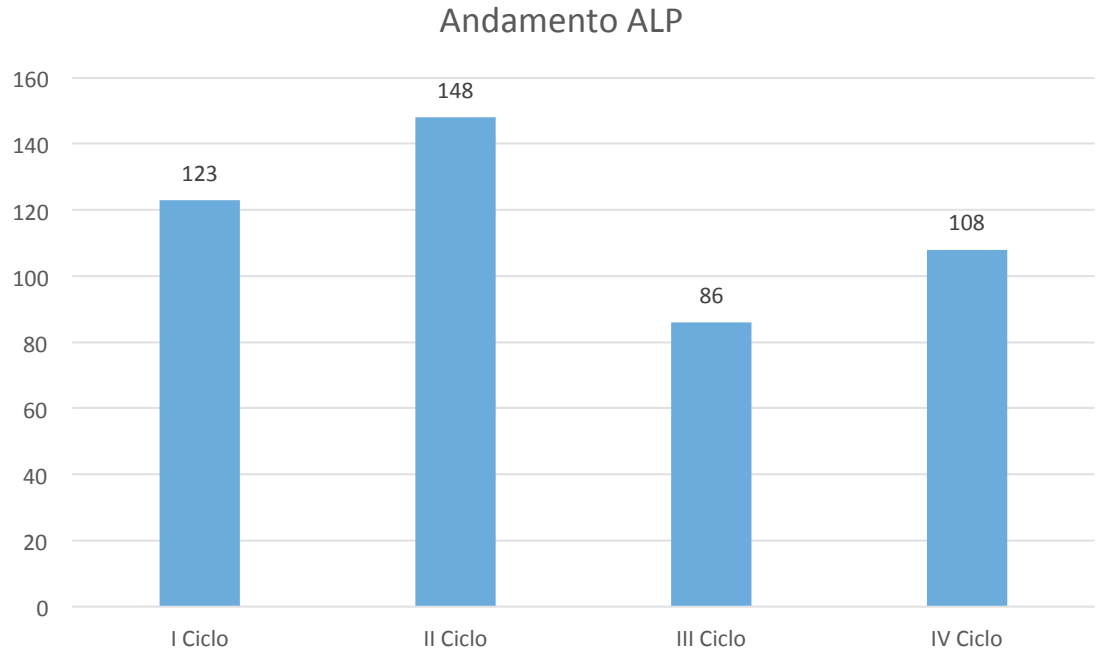


A.M. 75 Anni
Gleason 4+5
No Evidenza Malattia Viscerale
Terapia Antalgica ASA, Durogesic
Maggior Espressione del dolore al Femore Dx
In terapia con **223Ra-Cl** da **Dicembre 2014** a **Marzo 2015** (1 ciclo ogni 4 settimane circa)

History
bre 2014: 163.03 ng/ml (0-4) (I ciclo)
io 2015: 804 ng/ml (0-4) (II Ciclo)
raio 2015: 364 ng/ml (0-4) (III Ciclo)
o 2015: 472 ng/ml (0-4) (IV Ciclo)

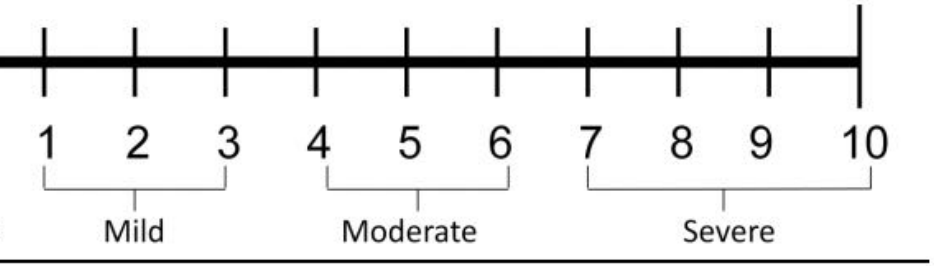


ALP History
Dicembre 2014: 123 U/L (I Ciclo)
Gennaio 2015: 148 U/L (II Ciclo)
Febbraio 2015: 86 U/L (III Ciclo)
Marzo 2015: 108 U/L (IV Ciclo)



Instructions (adopted from (McCaffery, Beebe et al. 1989):

e indicate the intensity of current, best, and worst pain levels over
t 24 hours on a scale of 0 (no pain) to 10 (worst pain imaginable)"

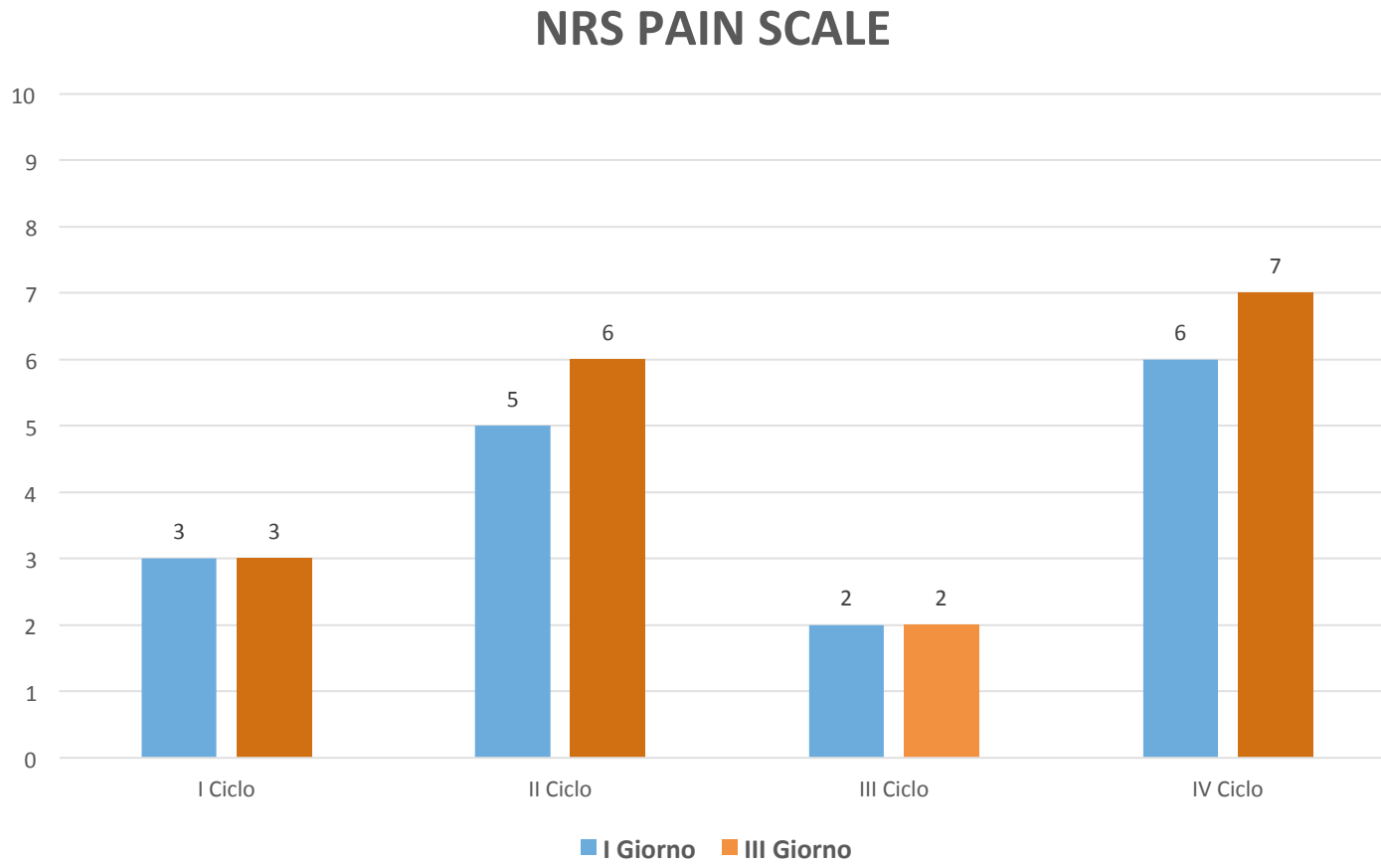


erence:

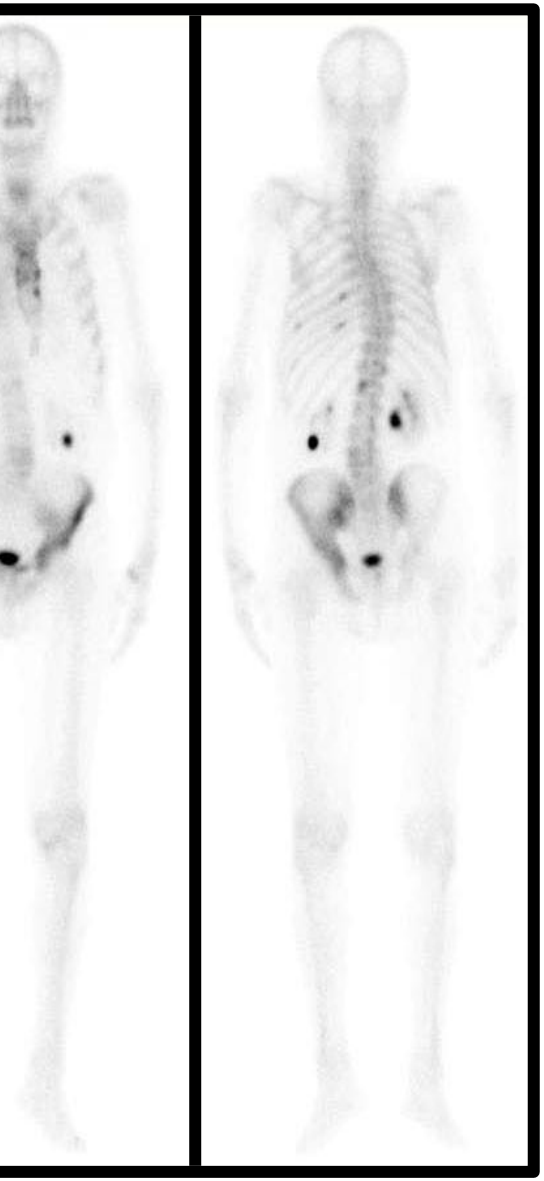
ffery, M., Beebe, A., et al. (1989). Pain: Clinical manual for nursing practice, Mosby St. Louis, MO.

History

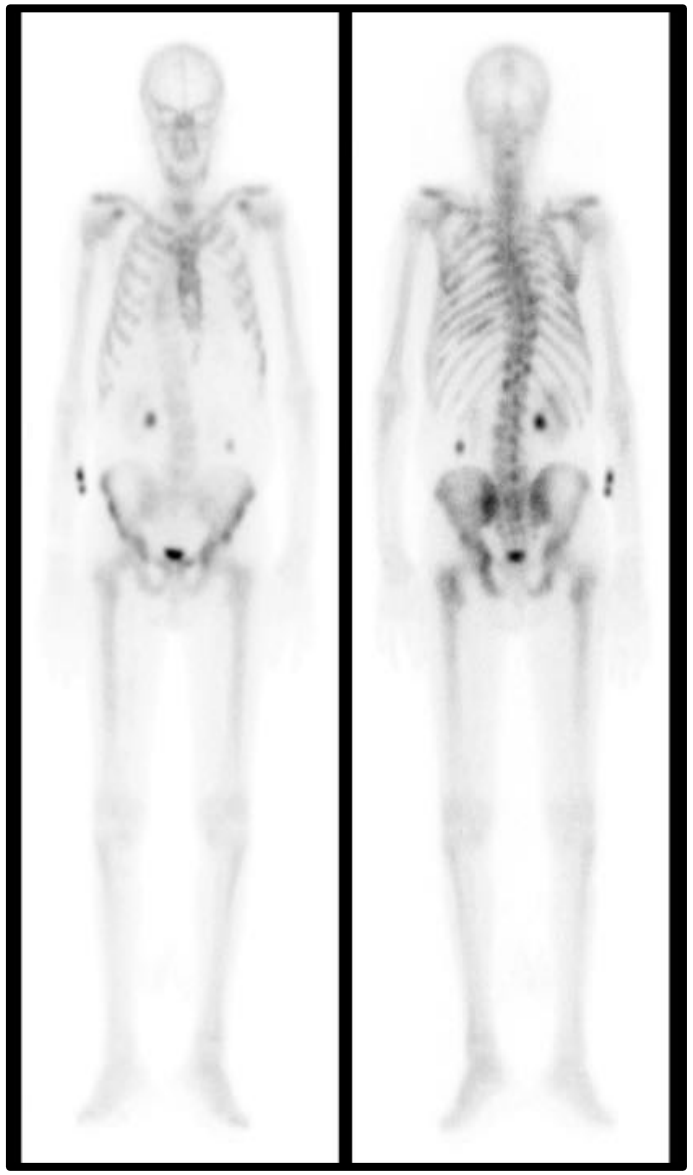
nbre 2014 3 (I Ciclo)
nbre 2014 3 (I Ciclo)
aio 2015 5 (II Ciclo)
aio 2015 6 (II Ciclo)
raio 2015 2 (III Ciclo)
raio 2015 2 (III Ciclo)
o 2015 6 (IV Ciclo)
o 2015 7 (IV Ciclo)



re-Trattamento



Controllo Dopo III Ciclo

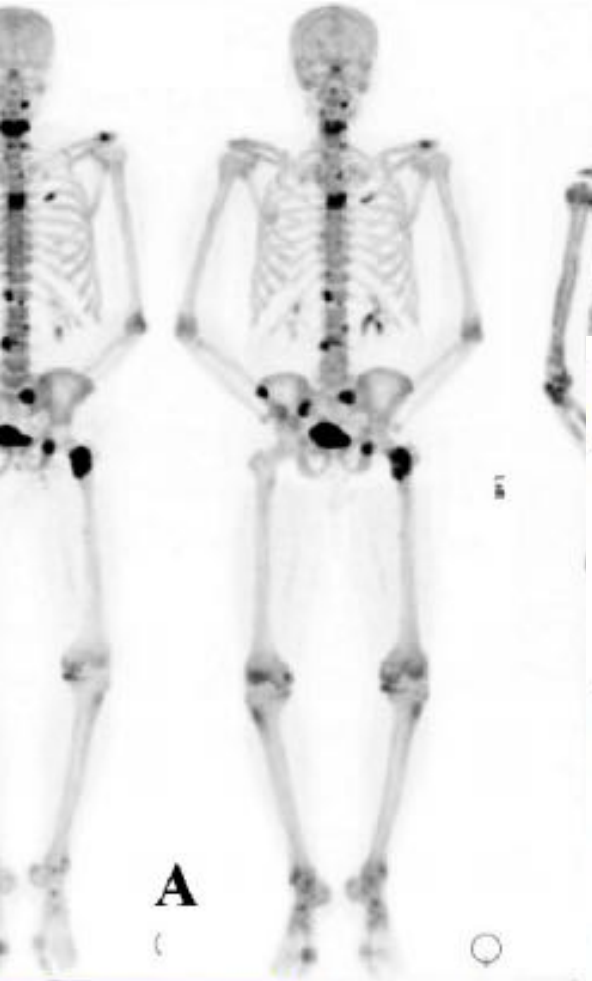


A.M. 75 Anni
Gleason 4+5
No Evidenza Malattia Viscerale
Terapia Antalgica ASA, Durogesic
Maggior Espressione del dolore al Femo
In terapia con **223Ra-Cl** da **Dicembre 20**
Marzo 2015 (1 ciclo ogni 4 settimane cir

luoride PET: changes in uptake as a method

ted

:4
1/1/4



alitative response assessment. Maximum intensity projection
ignificant qualitative change.

Table 1 Disease extent, measured metastatic sites and changes in mean SUVmax, PSA and ALP at 6 and 12 we after first administration of ^{223}Ra

Subject (disease extent)	0 weeks				6 weeks			12 weeks	
	Measured sites	Mean SUVmax (range)	Baseline PSA (ng/ml)	Baseline ALP (U/L)	SUV (range) [% of baseline]	PSA [% of baseline]	ALP [% of baseline]	SUV (range) [% of baseline]	PSA [% of baseline]
A (6-20 metastases)	C6, T6, L Sacrum, R ilium, L femur	46.4 (33.1-75.3)	370	118	31.3 (26.5-40.5) [67.5%]	210 [56.8%]	47 [39.8%]	22.1 (16.7-28.2) [47.6%]	207 [55.9%]
B (superscan)	C3, L1, L5, L femur, R tibia	15.0 (13.2-17.2)	508	761	16.0 (11.9-21.1) [106.7%]	459 [90.4%]	332 [43.6%]	3.7 (2.9-4.8) [24.7%]	350 [68.9%]
C (6-20 metastases)	L1, L3, L5, sternum, R ischium	74.6 (54.7-98)	78	129	66.7 (51.3-76.7) [89.4%]	92 [117.9%]	85 [65.9%]	38.2 (26.5-46.9) [51.2%]	57 [73.1%]
D (>20 metastases)	Skull, L scapula, T11, L3, L ilium	27.5 (20.3-35.4)	551	89	25.3 (20.6-29.5) [92%]	674 [122.3%]	53 [59.6%]	30.7 (21.1-59.4) [111.6%]	607 [110.2%]
E (superscan)	Skull, T12, L3, R ilium, R femur	22.3 (11.4-28.6)	254	393	20.3 (11-25) [91%]	273 [107.5%]	406 [103.3%]	18.8 (9.8-24.8) [84.3%]	298 [117.3%]

onitoraggio del Trattamento con 223Radiocloruro nel Paziente mCRPC Sintomatico
Stato Dell'Arte

uzione dolore:
esente, indicatore clinico affidabile

a valenza

ziale marker

grafia Scheletrica:
saria attenta valutazione, a fine mento, salvo chiari segni di essione.

dell'Imaging:
nza di criteri standardizzati

- Il trattamento va protratto fino all'insorg di eventuali gravi effetti collaterali o deterioramento clinico
- Prendere in considerazione tutti i segni e sintomi clinici disponibili
- Valutare il paziente nella sua globalità