

UTILIDAD Y LIMITACIONES EN EL USO DE PET-PSMA EN CÁNCER DE PRÓSTATA DE ALTO RIESGO

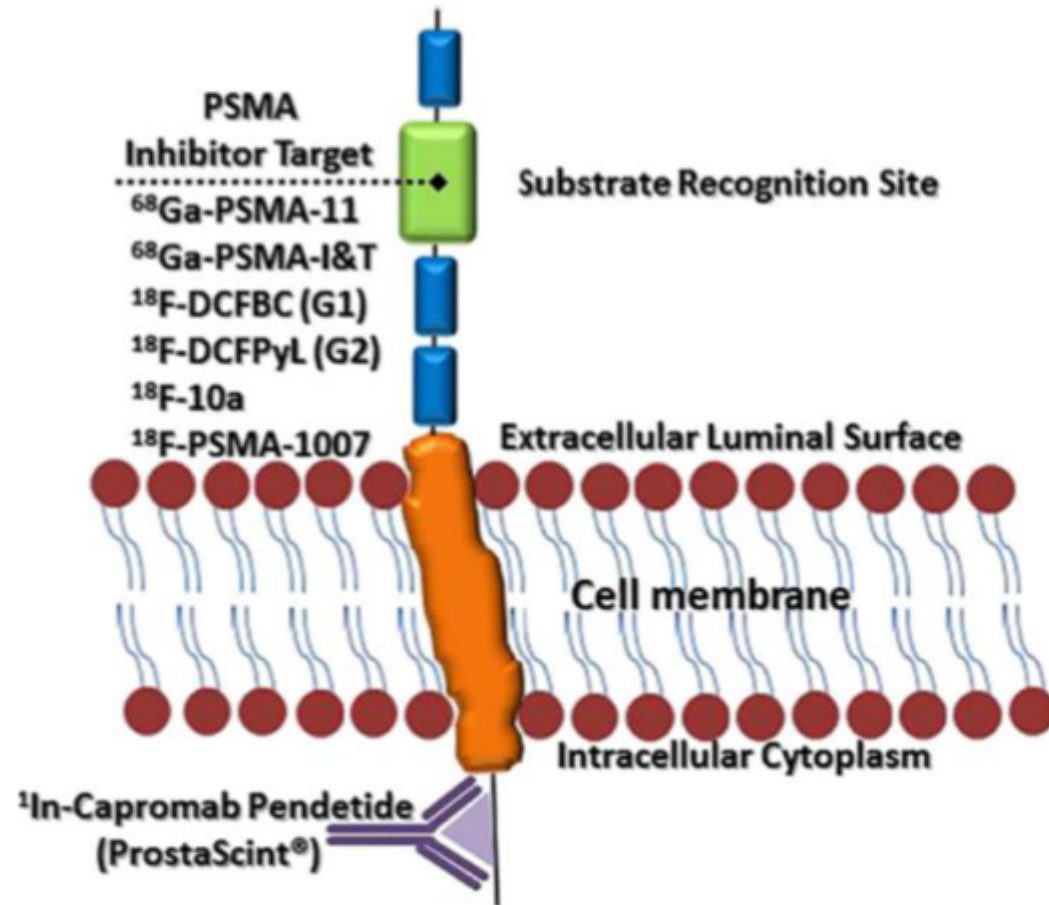
Iratxe Fernández Tercero
Servicio Medicina Nuclear
Hospital Universitario Cruces

16 de Septiembre 2026

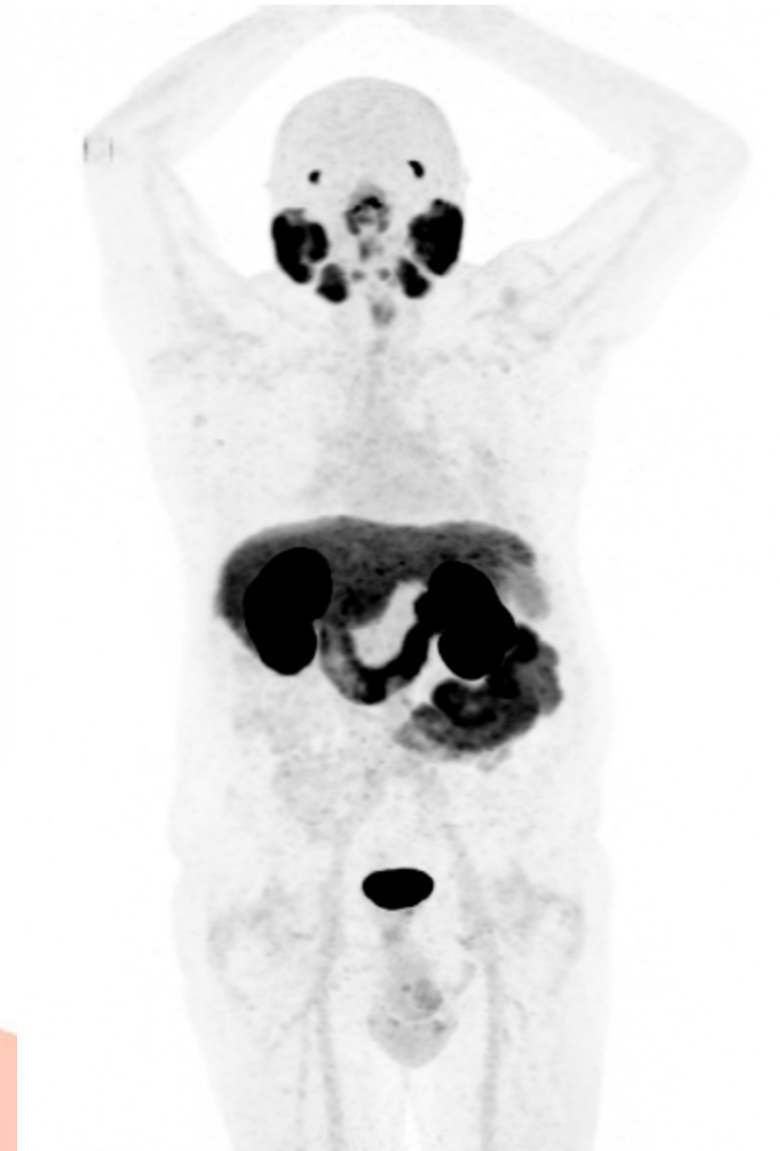
Agenda

1. QUÉ ES EL PET-PSMA Y TIPOS DE PSMA
2. BIODISTRIBUCIÓN Y PITFALLS
3. PROTOCOLOS
4. INDICACIONES Y GUÍAS
5. DIAGNÓSTICO INICIAL
6. ESTADIFICACIÓN
7. INFORME ESTRUCTURADO
8. CONCLUSIONES

1. QUÉ ES EL PET-PSMA Y TIPOS DE PSMA



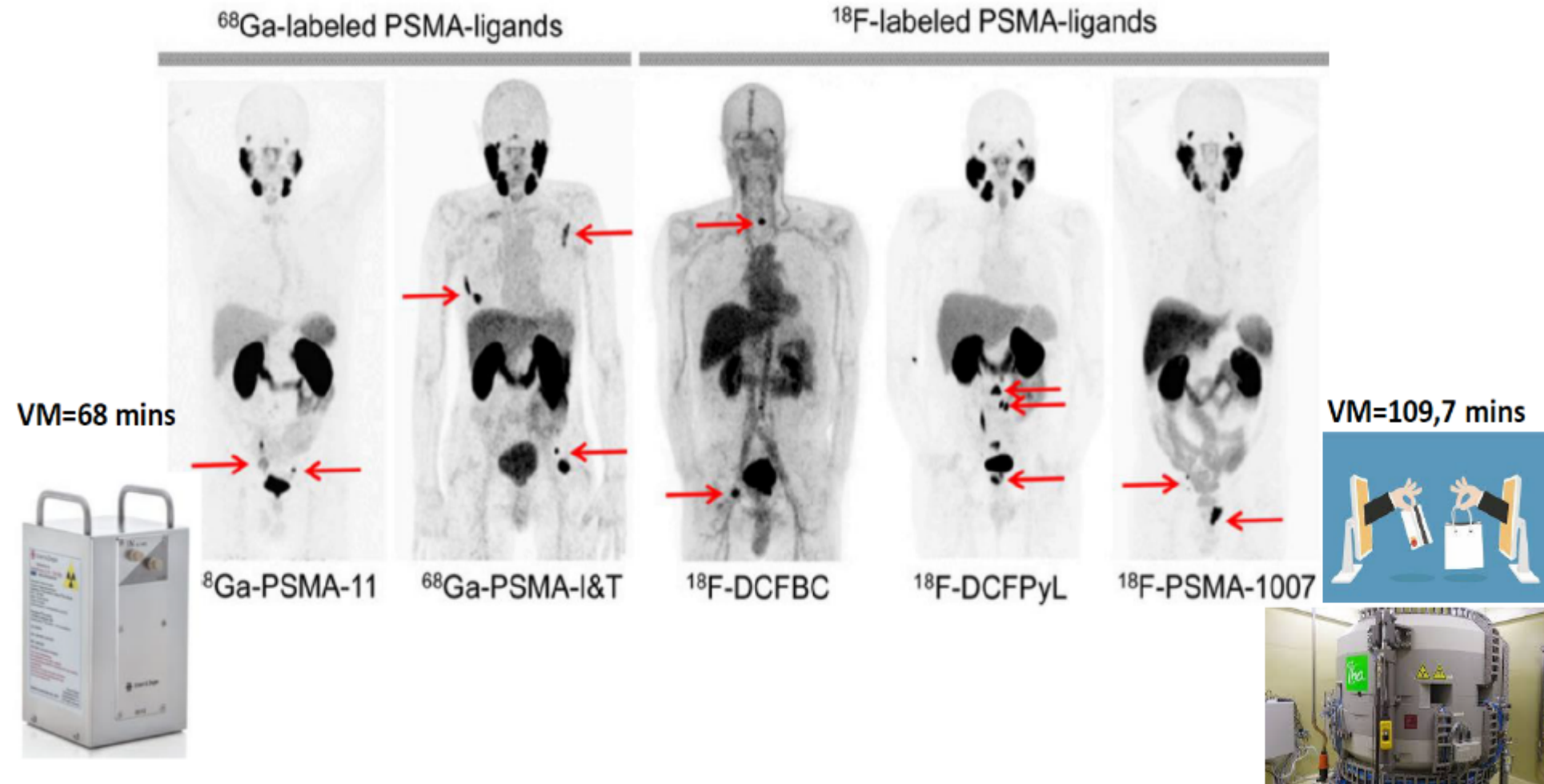
Evans J, Practical Radiation Oncology (2017)



1. QUÉ ES EL PET-PSMA Y TIPOS DE PSMA

TIPOS DE PET-PSMA EN EL DIAGNÓSTICO

Eiber M. JNM, 2017

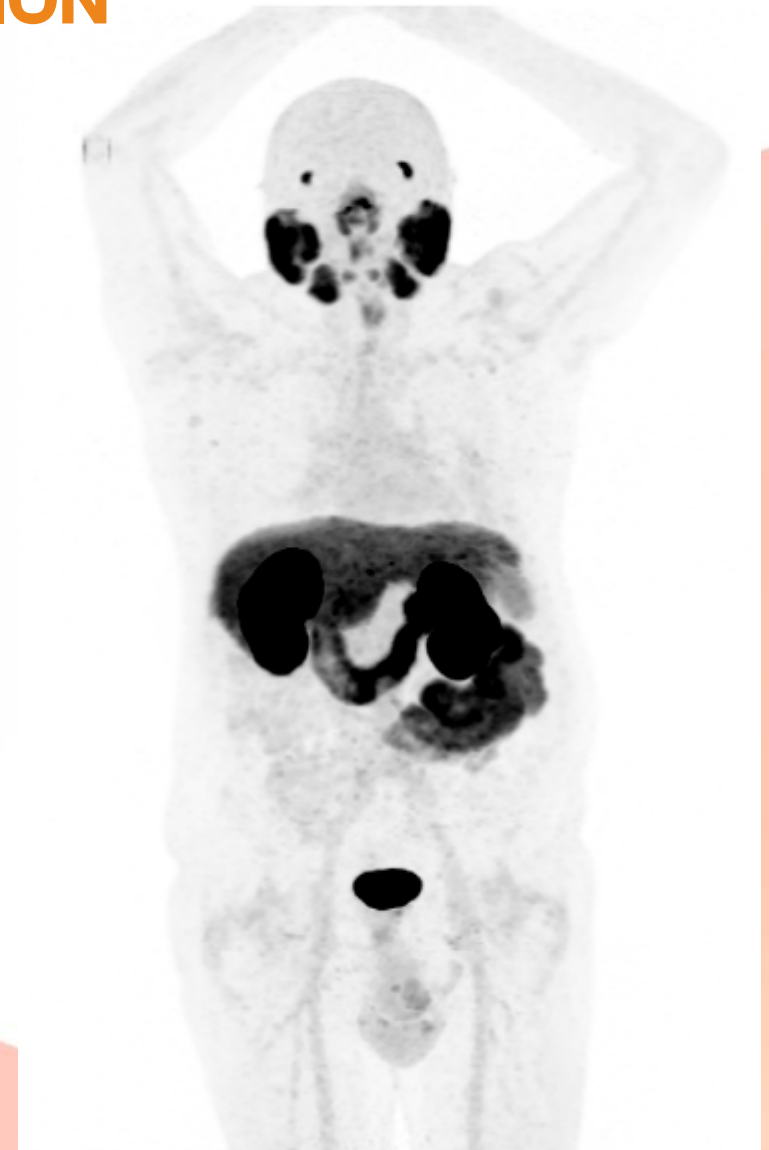
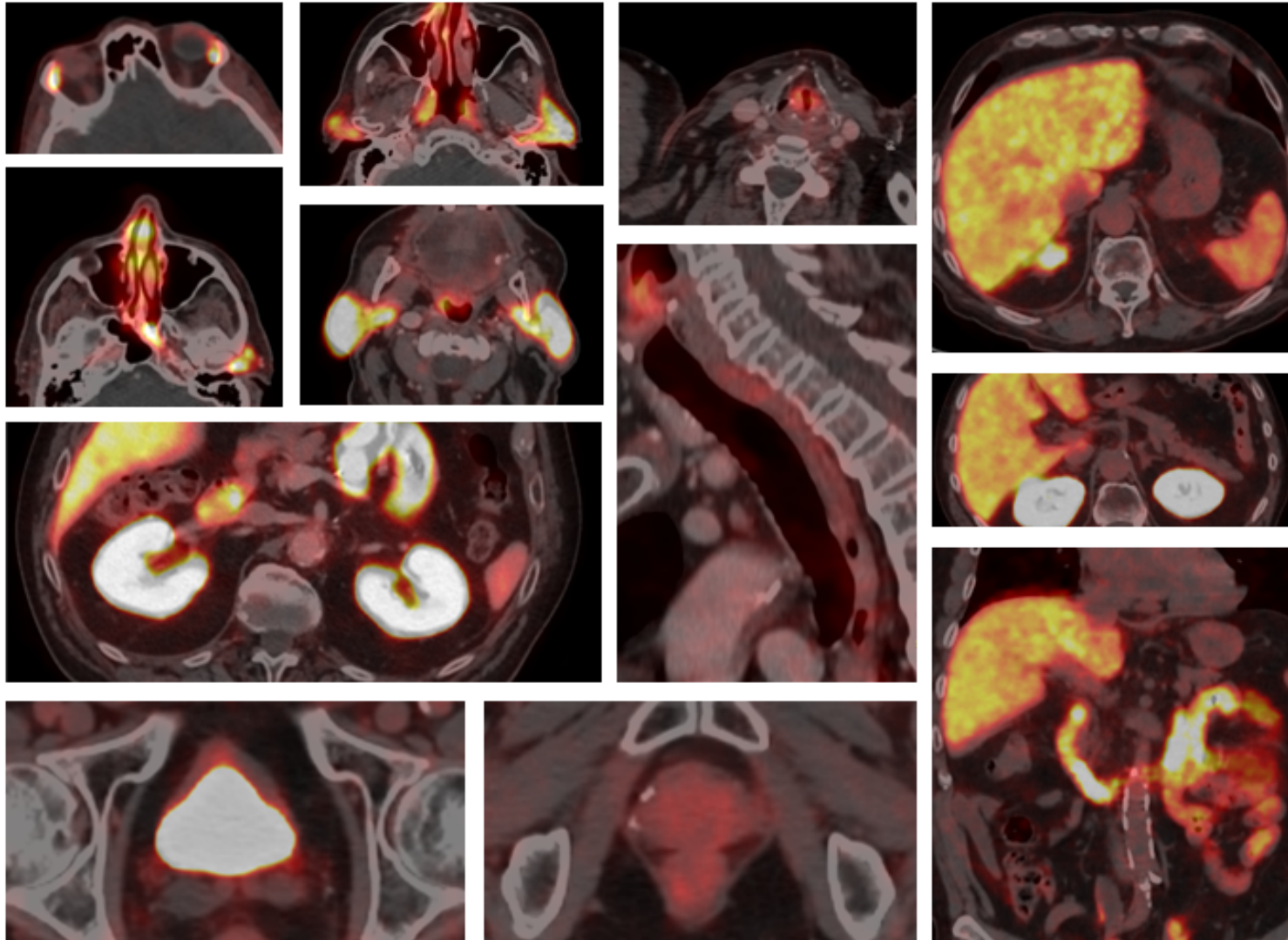


1. QUÉ ES EL PET-PSMA Y TIPOS DE PSMA

Radiofármaco	Administración	Dosis	Adquisición de las imágenes (tras inyección)	Imagen tardía de pelvis	Nombre comercial
⁶⁸ Ga-PSMA-11	Vía intravenosa en bolo único en la flexura antecubital (seguida de un lavado con suero fisiológico)	111–259 MBq (3-7 mCi)	> 60 minutos Aceptables 50-100 minutos	90*-180 min	Locametz® (Novartis) Illucix® (Telix)
¹⁸ F-DCFPyL		296 a 370 MBq (8-10 mCi)	> 60 minutos Aceptables 90-120 minutos	120 min	Pylarify® (Curium)
¹⁸ F-PSMA 1007		210-280 MBq (3–4 MBq/kg)	90 - 120 minutos	Opcional	Radelumin® (ABX)

Fendler WP, PSMA PET/CT: joint EANM procedure guideline/SNMMI procedure standard for prostate cancer imaging 2.0. Eur J Nucl Med, 2023

2. BIODISTRIBUCIÓN Y PITFALLS. BIODISTRIBUCIÓN



#guardsymposium2026
X @GuardConsortium

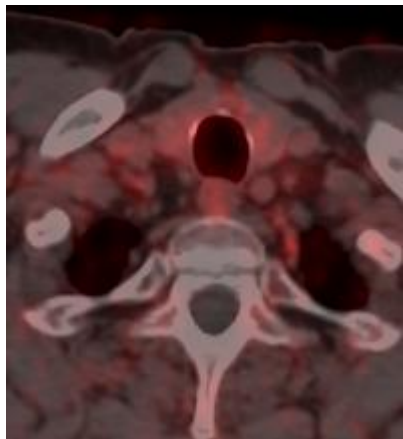
2. BIODISTRIBUCIÓN Y PITFALLS. PITFALLS

Inflamación - Infección	Patología ósea	Neoplasias benignas	Neoplasias malignas
SNC Neurocisticercosis Tórax Importante reconocer los patrones radiológicos y la historia natural de los procesos patológicos (bronquiectasias, opacidades, sarcoidosis, TBC y silicosis) Abdomen -Captaciones fisiológicas -Posquirúrgicas -Patologías benignas (sarcoidosis, diverticulosis, amiloidosis de las vesículas seminales y fístula anal)	Artrosis cambios radiológicos característicos Focos costales Son los de más difícil interpretación, suelen ser defectos fibrosos o fracturas (correlacionar con traumatismo o comparar con estudios previos). Necesario tener una imagen de mayor calidad de TC Osteomielitis Captación de mayor intensidad normalmente asociada a alteraciones vasculares, pero con hallazgos característicos en TAC o RM. Otras patologías -Mieloma múltiple -Enfermedad de Paget -Hemangioma -Displasia fibrosa -Fracturas tras radioterapia -Osteocondroma -Policitemia vera -Mielodisplasia	Origen neurogénico -Meningioma -Schwanoma -Neuro fibroma Adenomas -Paratiroides -Tiroides -Suprarrenal -Pancréatico Neoplasias vasculares (con elevado grado de captación) -Hemangiopericitoma -Angiomiolipoma -Hemangiomas	En relación con neovascularización -Carcinoma de Células Renales -Cáncer de pulmón -Cáncer colorrectal -Cáncer gástrico -Cáncer de páncreas -Gliomas (generalmente con menor captación que el cáncer de próstata)

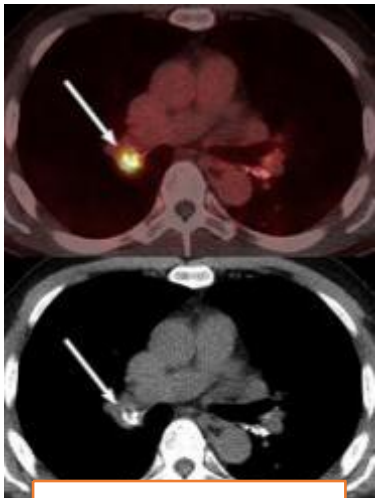
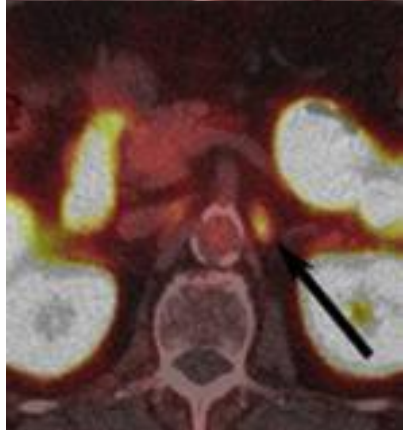
La causa más frecuente de lesiones no malignas en PSMA son los **ganglios reactivos (38%)** y las **lesiones óseas benignas (22%)**

Gutierrez-Cardo AL. Rev Esp Med Nuclear e Imagen Molecular 42 (2023) 203–208

Keidar Z. Cancer Imaging,2018



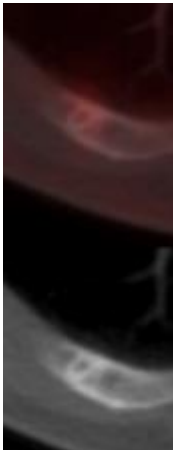
Ganglios reactivos



Ganglios granulomatosos



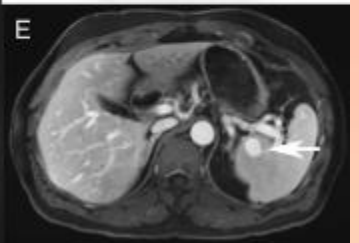
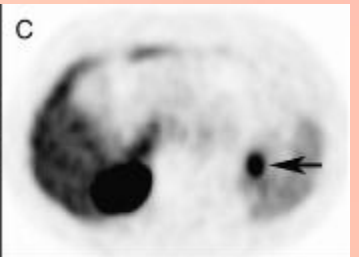
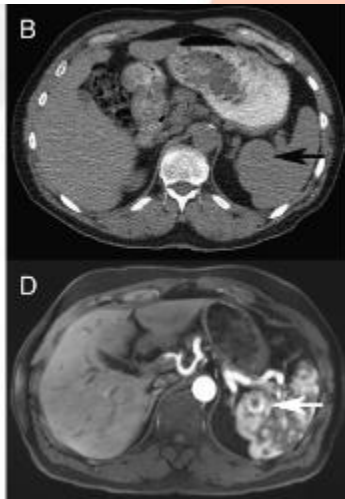
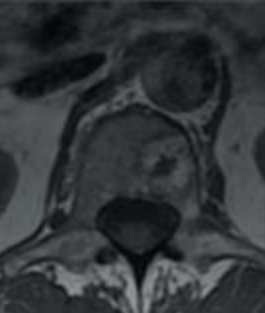
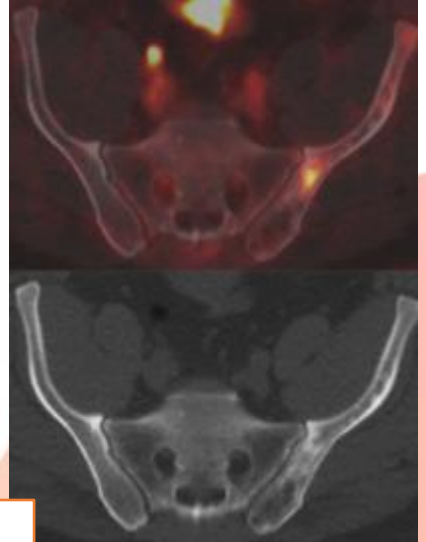
Ganglios simpáticos



Displasia fibrosa



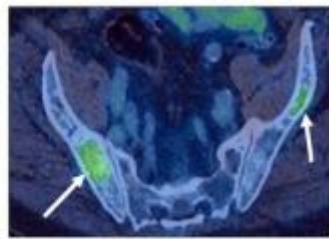
Enfermedad de Paget



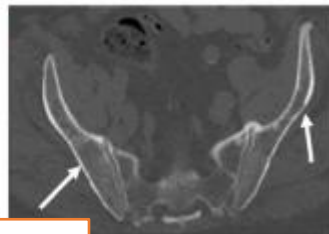
Hemangiomas



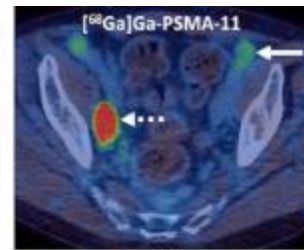
Mieloma Múltiple



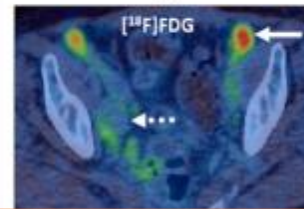
(b)



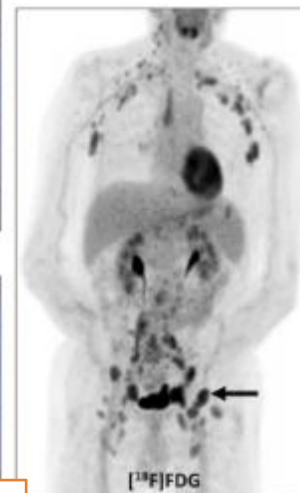
[68Ga]Ga-PSMA-11



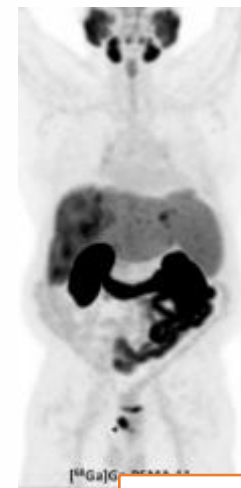
(b)



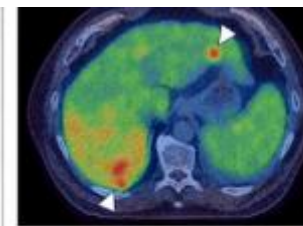
Linfoma



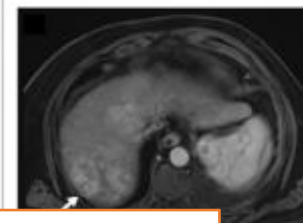
[18F]FDG



[68Ga]Ga-PSMA-11



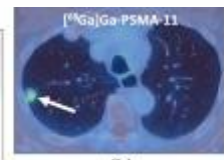
(b)



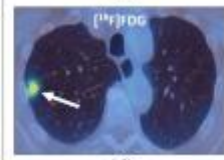
Hepatocarcinoma



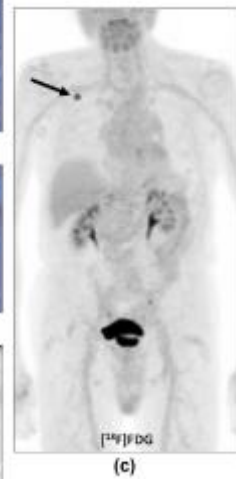
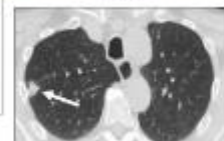
[68Ga]Ga-PSMA-11



(b)

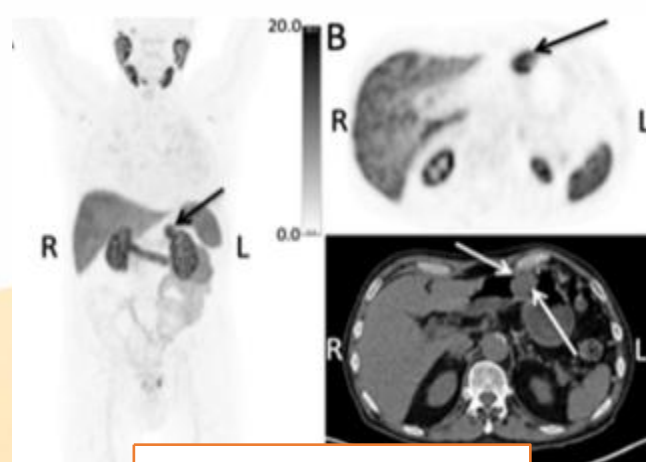


(d)

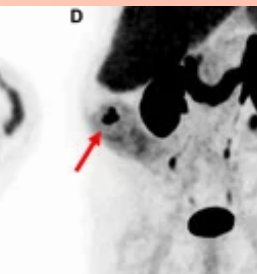
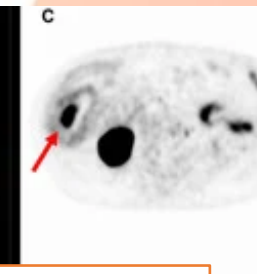
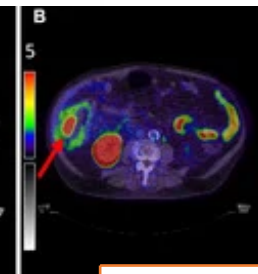
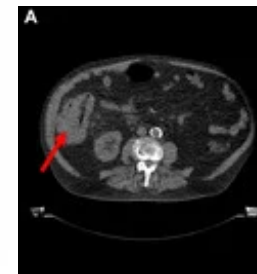


(c)

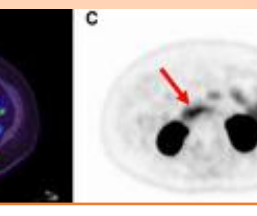
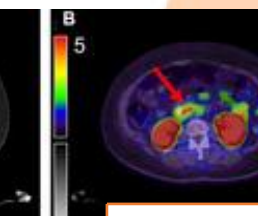
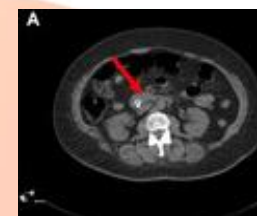
Neoplasia pulmonar



Neoplasia gástrica



Neoplasia colon



Neoplasia pancreática

3. PROTOCOLOS

Radiofármaco	Dosis	Imágenes WB	Imagen tardía de pelvis
18F-DCFPyL	0.1 mCi/kg	100 minutos p.i.	+30 min post WB
18F-PSMA 1007	0.1 mCi/kg	100 minutos p.i.	Opcional
[68Ga]Ga-PSMA-11	0.05 mCi/kg	80 min p.i.	+30-60 post WB

FOV: Desde vértex a justo encima de la rodilla

Contraste ev: **split bolus**

Ver sistema excretor

Valoración lesiones óseas

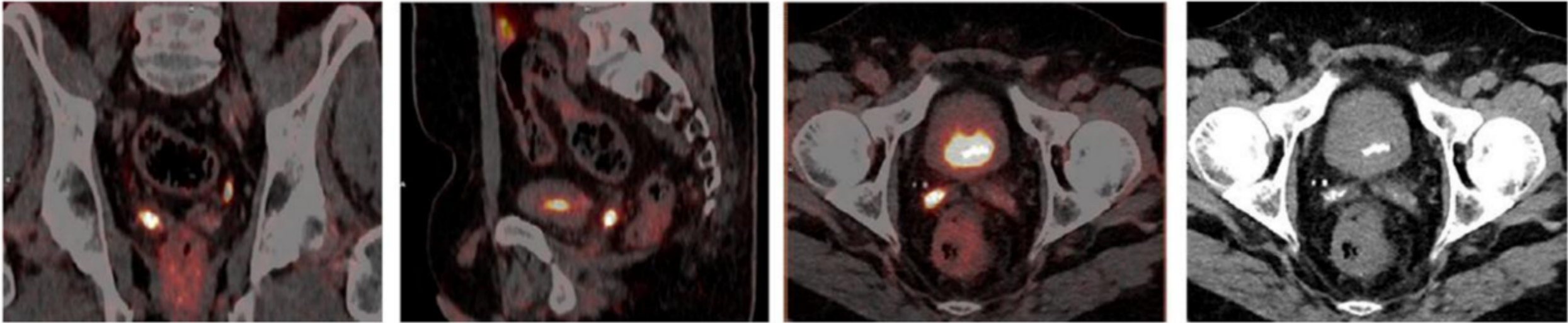
Tardía:

Eliminación urinaria

¿DeltaSUV: Bg/Mg?

3. PROTOCOLOS

Administración de 50 ml de contraste iv (Omnipaque 300) 10-15 minutos antes de la adquisición de PET/CT



REFLUJO DE ORINA A VESÍCULAS SEMINALES, EN PACIENTE CON ANTECEDENTE DE HOLEP POR HBP

(Bronte A) en Clinical Nucl Med

3. PROTOCOLOS

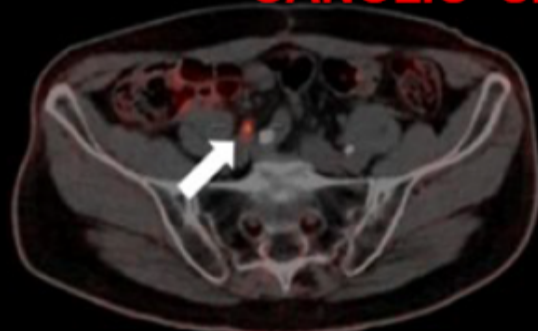
VALOR DE LAS IMÁGENES TARDÍAS EN LA CAPTACIÓN GANGLIONAR

38 pacientes prospectivamente estudiados

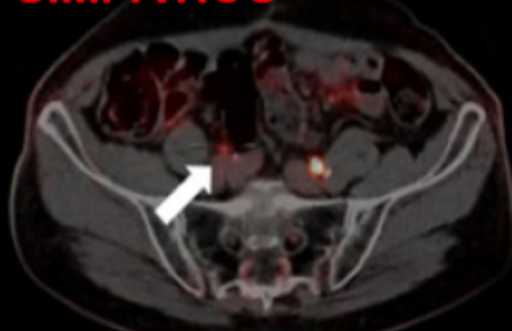
Los hallazgos se confirmaron mediante:

- Estudio histológico
- Prueba de imagen
- Respuesta de PSA tras tratamiento dirigido.

GANGLIO SIST. SIMPÁTICO



60-100 MIN



180 MIN

SUVmax basal=3,8
SUVmax tardía=2,1

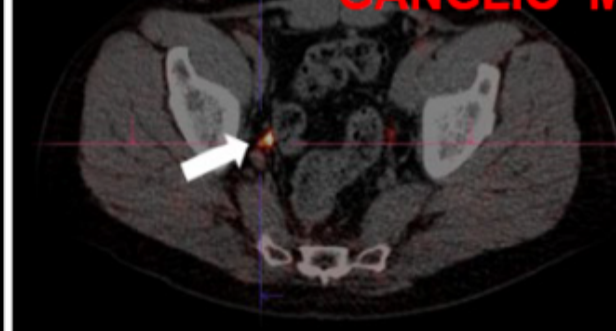
Δ SUV= - 44,7%

Δ SUVmax = -1,1%

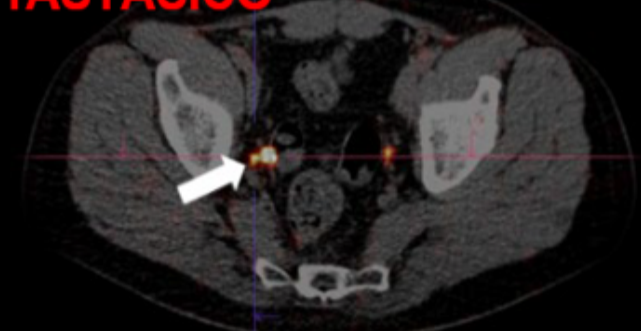
GANGLIO BENIGNO

S 100%, E 100%; AUC 1.000

GANGLIO METASTÁSICO



60-100 MIN



180 MIN

SUVmax basal=2,3
SUVmax tardía=4,2

Δ SUV=82%

3. PROTOCOLOS

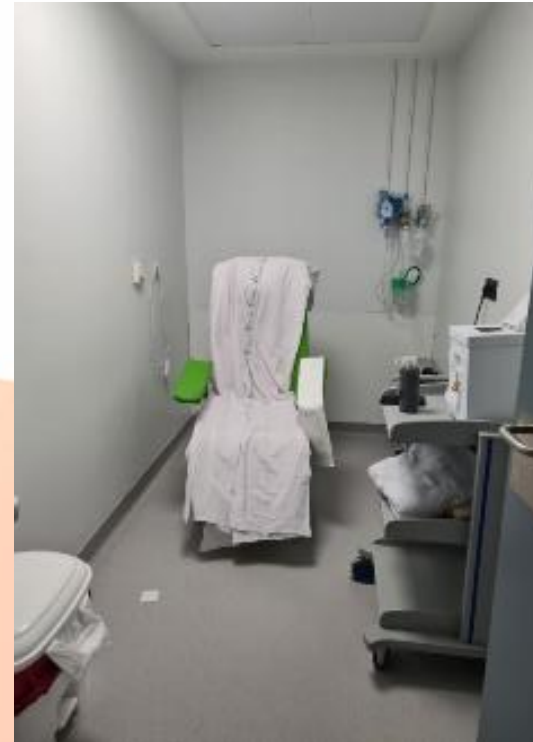
PREPARACIÓN DEL PACIENTE:

- No requiere ayuno.
- Medicación habitual.
- Adecuada hidratación como medida de radioprotección.
- No requiere administración de diuréticos ni colocación de sondaje vesical. A decisión del centro.

ADQUISICIÓN:

- +0: inyección dosis/Kg.
- +85 min: orinar.
- +90 min: adquisición imágenes TC+PET.

Colaboración con RX



3. PROTOCOLOS

Conocer la probabilidad pre-test de la prueba

Factores que influyen en la positividad de la prueba

- PSA
- Tiempo de duplicación de PSA (tdPSA): < 6 meses
- Gleason score

Atención a la historia del paciente

- Tratamiento recibido (PR, RT, BqT...)
- Antecedentes traumáticos, quirúrgicos, radioterapia...
- Tratamiento hormonal (hormonosensible: ¡cuidado antes de 3 m!)

4. INDICACIONES Y GUÍAS

4. DATOS CLÍNICOS

4.1. Indicaciones terapéuticas

Este medicamento es únicamente para uso diagnóstico .

Pylclari está indicado para la detección de lesiones que expresan el antígeno prostático específico de membrana (PSMA) mediante tomografía por emisión de positrones (PEn en adultos con cáncer de próstata (CaP) en los siguientes escenarios clínicos:

- Estadificación primaria de pacientes con CaP de alto riesgo antes del tratamiento curativo inicial.
- Localización de recurrenciasde CaP en pacientes con sospecha de recidiva basada en el aumento de los niveles séricos de antígeno prostático específico (PSA) después del tratamiento primario con intención curativa.

Table 6.4.2: PSMA-positivity separated by PSA level category [867]

PSA (ng/mL)	⁶⁸ Ga-PMSA PET positivity
< 0.2	33% (CI: 16–51)
0.2–0.49	45% (CI: 39–52)
0.5–0.99	59% (CI: 50–68)
1.0–1.99	75% (CI: 66–84)
2.0+	95% (CI: 92–97)

Table 6.6.1: EAU risk groups for biochemical recurrence of localised and locally-advanced prostate Cancer

Definition			
Low-risk	Intermediate-risk	High-risk	
PSA < 10 ng/mL and GS < 7 (ISUP grade 1) and cT1-2a*	PSA 10–20 ng/mL or GS 7 (ISUP grade 2/3) or cT2b*	PSA > 20 ng/mL Or GS > 7 (ISUP grade 4/5) or cT2c*	any PSA any GS (any ISUP grade)* cT3-4* or cN+**
Localised			Locally advanced

GS = Gleason score; ISUP = International Society for Urological Pathology; PSA = prostate-specific antigen.

* Based on digital rectal examination.

** Based on CT/bone scan.

4. INDICACIONES Y GUÍAS



National
Comprehensive
Cancer
Network®

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NCCN Guidelines Version 1.2026 Prostate Cancer

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PRINCIPLES OF IMAGING

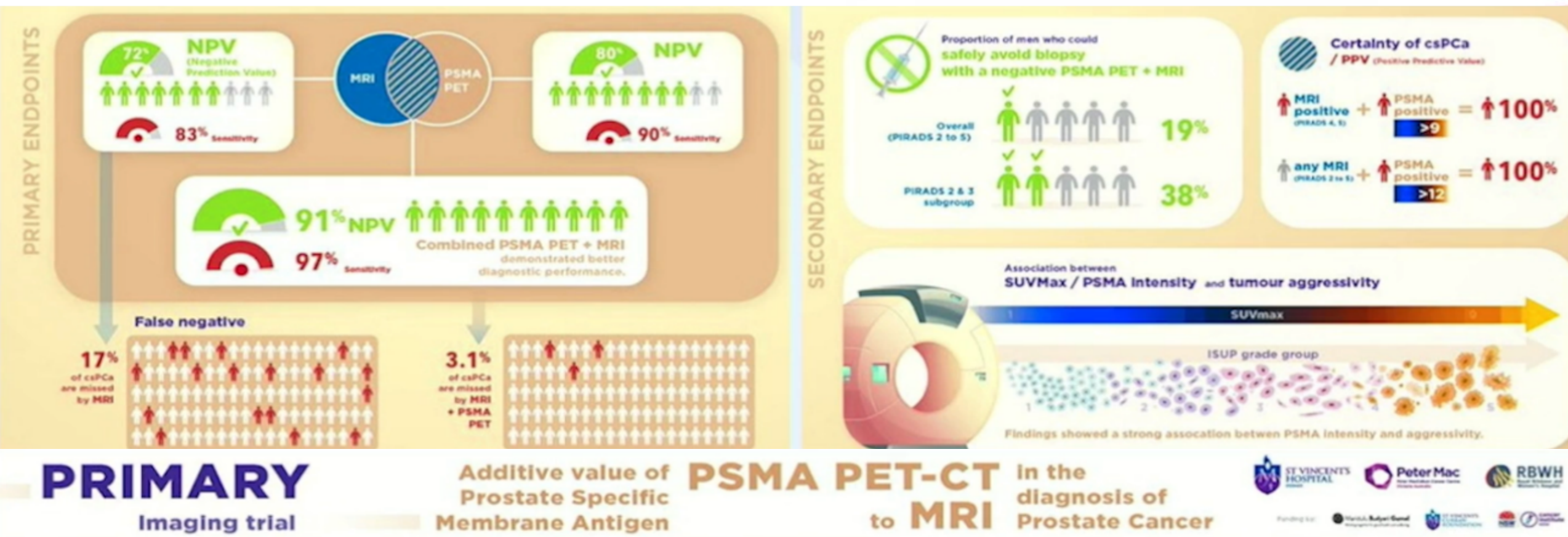
Table 1. FDA-Cleared PET Imaging Tracers Studied in Prostate Cancer

Tracer	Half-Life (min)	Excretion	Detection Rates ^a	Panel Recommendation
Ga-68 PSMA-11 (PSMA-HBED-CC)	68	Renal	• 40% sensitivity and 95% specificity to detect nodal involvement in primary staging of patients with intermediate-, high-, and very-high-risk disease • 92% patient-level PPV in BCR	• May be considered as an alternative to CT, MRI, and bone scans for initial staging, the detection of biochemically recurrent disease and as workup for progression. • May be considered for equivocal results on initial bone scan
F-18 piflufolastat-PSMA (DCFPyL)	110	Renal	• 31%–42% sensitivity and 96%–99% specificity to detect nodal involvement in primary staging of patients with unfavorable intermediate-risk, high-risk, and very-high-risk disease • 85%–87% patient-level CLR^b in BCR	
F-18 flutolastat PSMA (rh-PSMA-7.3)	110	Renal	• 23%–30% sensitivity and 93%–97% specificity to detect nodal involvement in primary staging of patients with unfavorable-intermediate-, high-, and very-high-risk disease • 82% patient-level PPV in BCR	
C-11 choline	20	Hepatic and Renal	• 53%–96% PPV in BCR	• May be used to detect small-volume recurrent disease in soft tissues and in bone. • May be considered for equivocal results on initial bone scan
F-18 fluciclovine (FACBC)	110	Renal	• 87%–91% CLR^b in BCR	
F-18 sodium fluoride	110	Renal	• 77%–94% sensitivity, 92%–99% specificity, and 82%–97% PPV for bone metastases	May be considered for equivocal results on initial bone scan

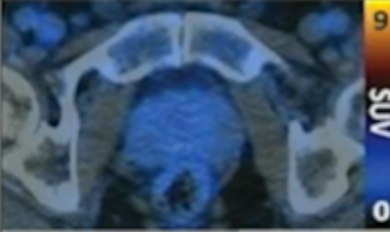
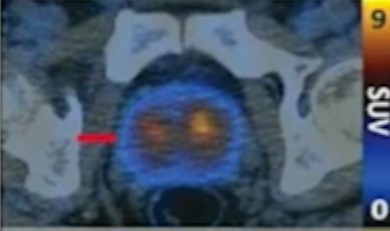
4. INDICACIONES Y GUÍAS

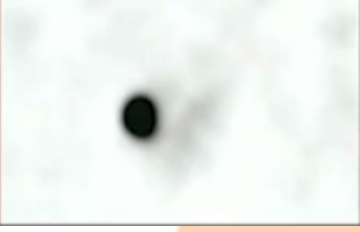
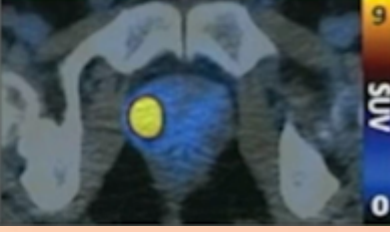
- **PSMA PET/TC se reconoce como el test de imagen más sensible y específico para la detección de enfermedad en todos los escenarios clínicos del cáncer de próstata**
- **Las recomendaciones en las diferentes guías se han incrementado**
- **Necesidad de generar evidencia sobre resultados en pacientes**

5. DIAGNÓSTICO INICIAL

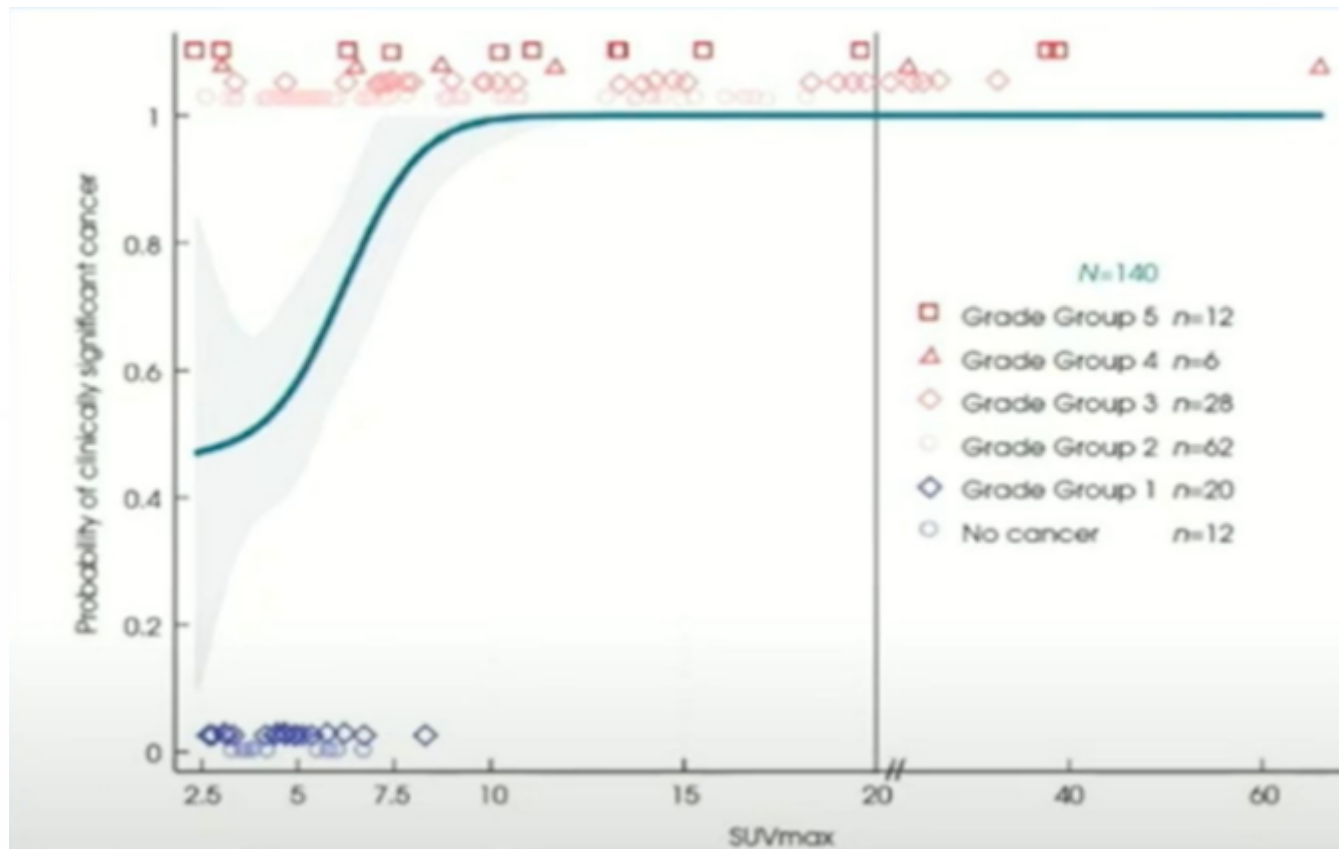


5. DIAGNÓSTICO INICIAL

PRIMARY score	PET	PET/CT
Score 1 No pattern. Low grade activity only.		
Score 2 Diffuse TZ (Pattern A). It spares the prostate peripheral margin on fused PET/CT (red arrow). This pattern can have moderate variation in TZ intensity.		
Score 2 CZ activity (Pattern B). Frequently symmetrical. This pattern is classified as a PRIMARY score 4 if it extends to the prostate peripheral margin on fused PET/CT.		

PRIMARY score	PET	PET/CT
Score 3 Focal TZ (Pattern C). Focal activity well above the background TZ activity (visually at least twice background TZ).		
Score 4 Focal PZ (Pattern D). Any focal activity involving the peripheral prostate margin on fused PET/CT or apically (no minimum intensity).		
Score 5 Intense uptake SUVmax >12		

5. DIAGNÓSTICO INICIAL

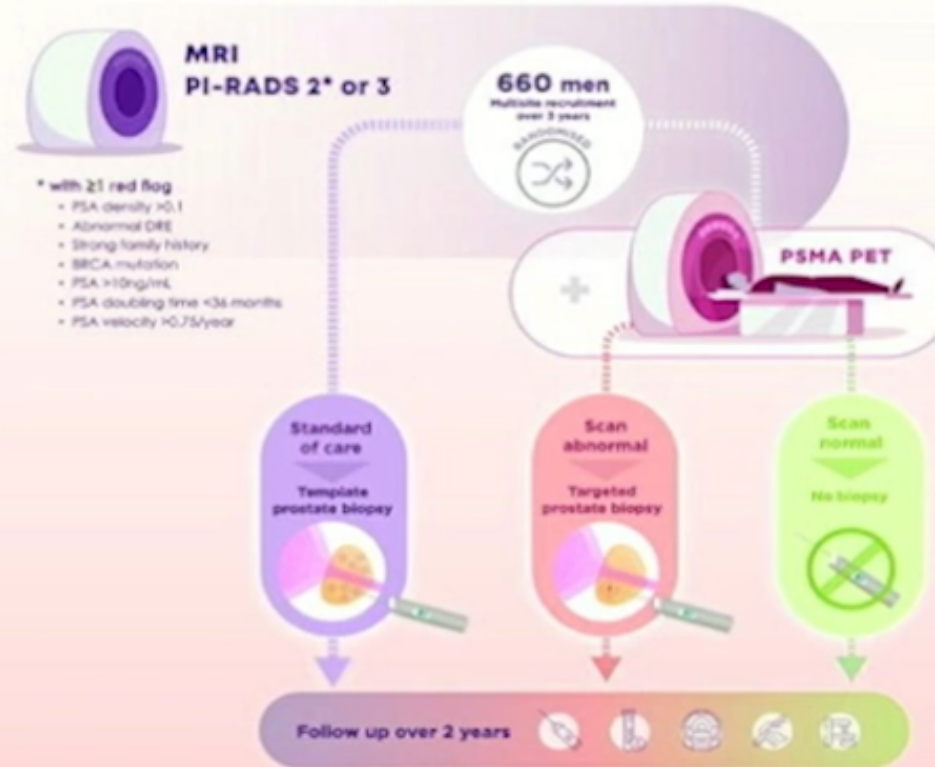


- PIRADS 4-5 + SUVmax >9 : 100% SC Ca Próstata
- 100% SUVmax >12 SC Ca Próstata

5. DIAGNÓSTICO INICIAL



Additive value of **PSMA PET** for men with negative or equivocal MRI to diagnose significant prostate cancer



6. ESTADIFICACIÓN

Prostate-specific membrane antigen PET-CT in patients with high-risk prostate cancer before curative-intent surgery or radiotherapy (proPSMA): a prospective, randomised, multi-centre study

Michael S Hofman, Nathan Lounsbury, Rodger J French, Colin Tang, Ian Veale, Paul Thomas, Natalie Rutherford, David M Martin, Mark Frydenberg, Ramdass Shaljee, Li-Ming Wang, Kim Toubman, Sar Ting Lee, Edward Holm, Paul Roach, Michelle Horridge, Ian Kirkwood, Dickon Haynes, Emma Link, Petros Maniatis, Anetta Molino, Alan Herrick, Amir Iravani, Rodney J Hicks, Scott Williams, Declan G Murphy, for the proPSMA Study Group Collaborators*

sensitivity 38% vs. 85%
specificity 91% vs 98%

Subgroup analyses

Pelvic lymph node (N+)

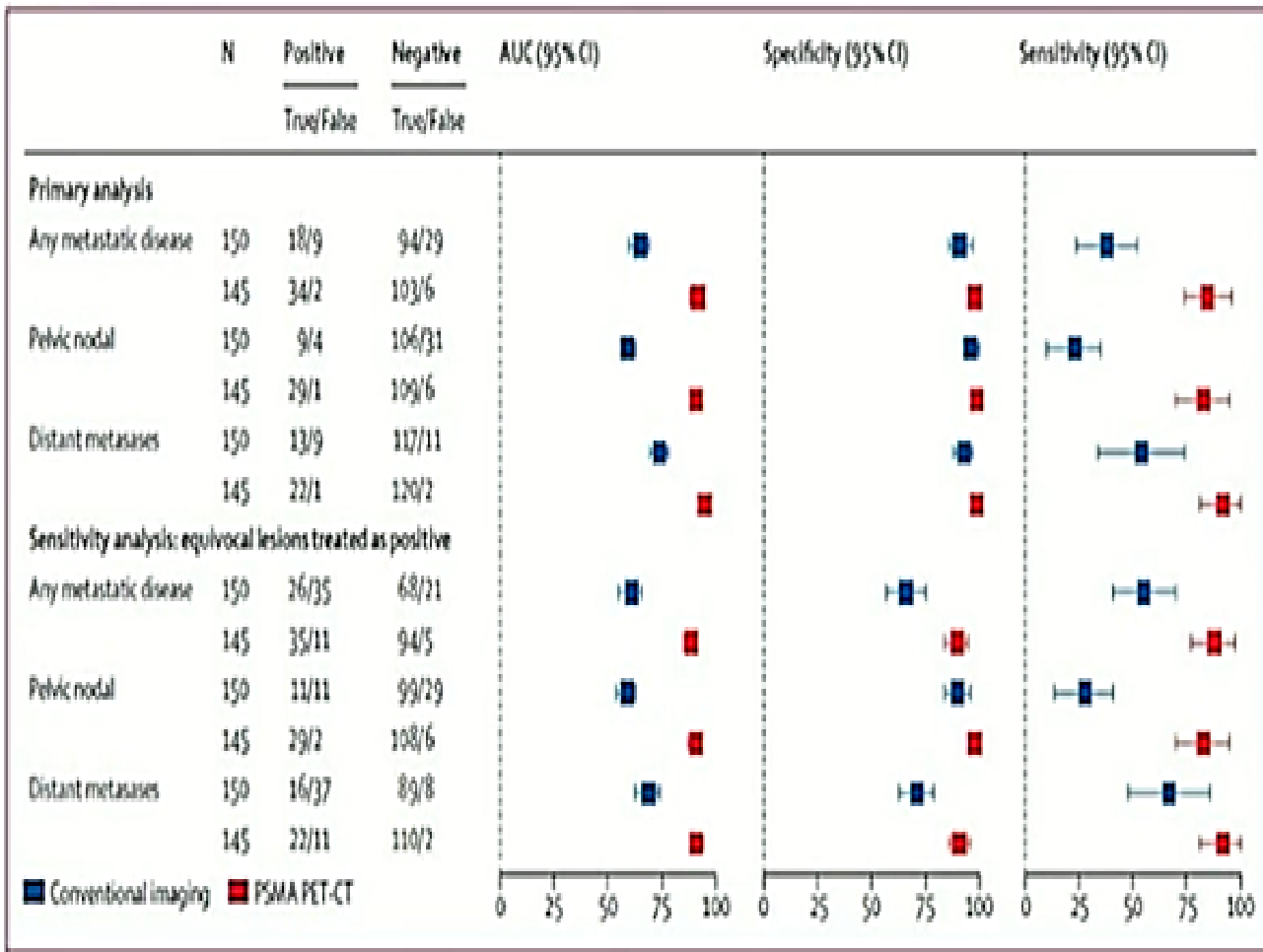
91% PSMA (S 83% / E 99%)
59% conventional imaging. (S 23% E 96%)

Distant metastases (M+)

95% PSMA. (S 92% E 99%)
74% conventional imaging. (S 54% / E 93%)

proPSMA (⁶⁸Ga-PSMA-11)

PSA ≥ 20 ng/mL
Estadio clínico T3 o superior
ISUP 3-5



6. ESTADIFICACIÓN

- **PSMA PET/TC se asocia con mayor exactitud (92% vs 65%, $p < 0.0001$)**
- **PSMA PET/TC se asocia con mayor sensibilidad (85% vs 38%) y especificidad (98% vs 91%)**
- **PSMA PET/TC se asocia con menos resultados inciertos (7% vs 23%)**
- **Costoeficiente**

6. ESTADIFICACIÓN

	UCSF/UCLA	OSPREY	LIGHTHOUSE
Trazador	⁶⁸ Ga-PSMA-11	¹⁸ F-DCFPyL	¹⁸ F-rhPSMA-7.3
Eligibilidad	Intermedio Muy alto riesgo	Alto riesgo Muy alto riesgo	Intermedio desfavorable Muy alto riesgo
Pacientes	277	252	296
Sensibilidad	0.40 (0.34-0.46)	0.40 (0.28-0.53)	0.23-0.30 (0.14-0.42)
Especificidad	0.95 (0.92-0.97)	0.98 (0.95-0.99)	0.93-0.97 (0.89-0.99)
VPP	0.75 (0.70-0.80)	0.87 (0.70-0.95)	0.57-0.70 (0.40-0.87)
VPN	0.81 (0.76-0.86)	0.83 (0.78-0.88)	0.80-0.81 (0.75-0.86)
M1 extrapélvicas	0.04	0.12	0.16-0.18

**PSMA PET/TC TIENE ALTA ESPECIFICIDAD, MODERADO VPP Y VPN
BAJA SENSIBILIDAD PARA ENFERMEDAD MICROSCÓPICA**

6. ESTADIFICACIÓN

Can Negative Prostate-specific Membrane Antigen Positron Emission Tomography/Computed Tomography Avoid the Need for Pelvic Lymph Node Dissection in Newly Diagnosed Prostate Cancer Patients? A Systematic Review and Meta-analysis with Backup Histology as Reference Standard

Armando Stabile^{a,b,1,*}, Antony Pellegrino^{a,b,†}, Elio Mazzone^{a,b}, Donato Cannoletta^{a,b},

(27 studies, 2832 patients)
Histology as a Reference Standard

Sensitivity: 58% (95% CI: 50-66%)
Specificity: 95% (95% CI: 93-97%)

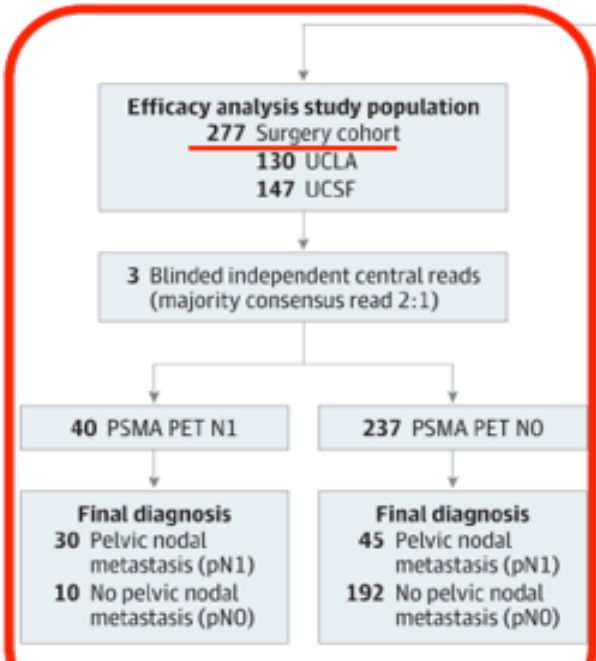
PPV: 79% (95% CI: 72 - 85%)

NPV: 87% (95% CI: 84 - 89%)

Diagnostic Accuracy of ⁶⁸Ga-PSMA-11 PET for Pelvic Nodal Metastasis Detection Prior to Radical Prostatectomy and Pelvic Lymph Node Dissection
A Multicenter Prospective Phase 3 Imaging Trial

Thomas A. Hope, MD; Matthias Eiber, MD; Wesley R. Armstrong; Roxanna Juarez, MD; Vishnu Murthy; Courtney Lawhn-Heath, MD; Spencer C. Behr, MD; Li Zhang, PhD; Francesco Barbato, MD; Francesco Ceci, MD; Andrea Farolfi, MD; Sarah M. Schwarzenböck, MD; Marcus Unterrainer, MD; Helle D. Zacho, MD, PhD; Hao G. Nguyen, MD; Matthew R. Cooperberg, MD; Peter R. Carroll, MD, MPH; Robert E. Reiter, MD; Stuart Holden, MD; Ken Herrmann, MD; Shaojun Zhu, MSc; Wolfgang P. Fendler, MD; Johannes Czernin, MD; Jeremie Calais, MD

Eur Urol Oncol . 2022



75 patients (27.1%) pN1

30 (40%) were N1 by P

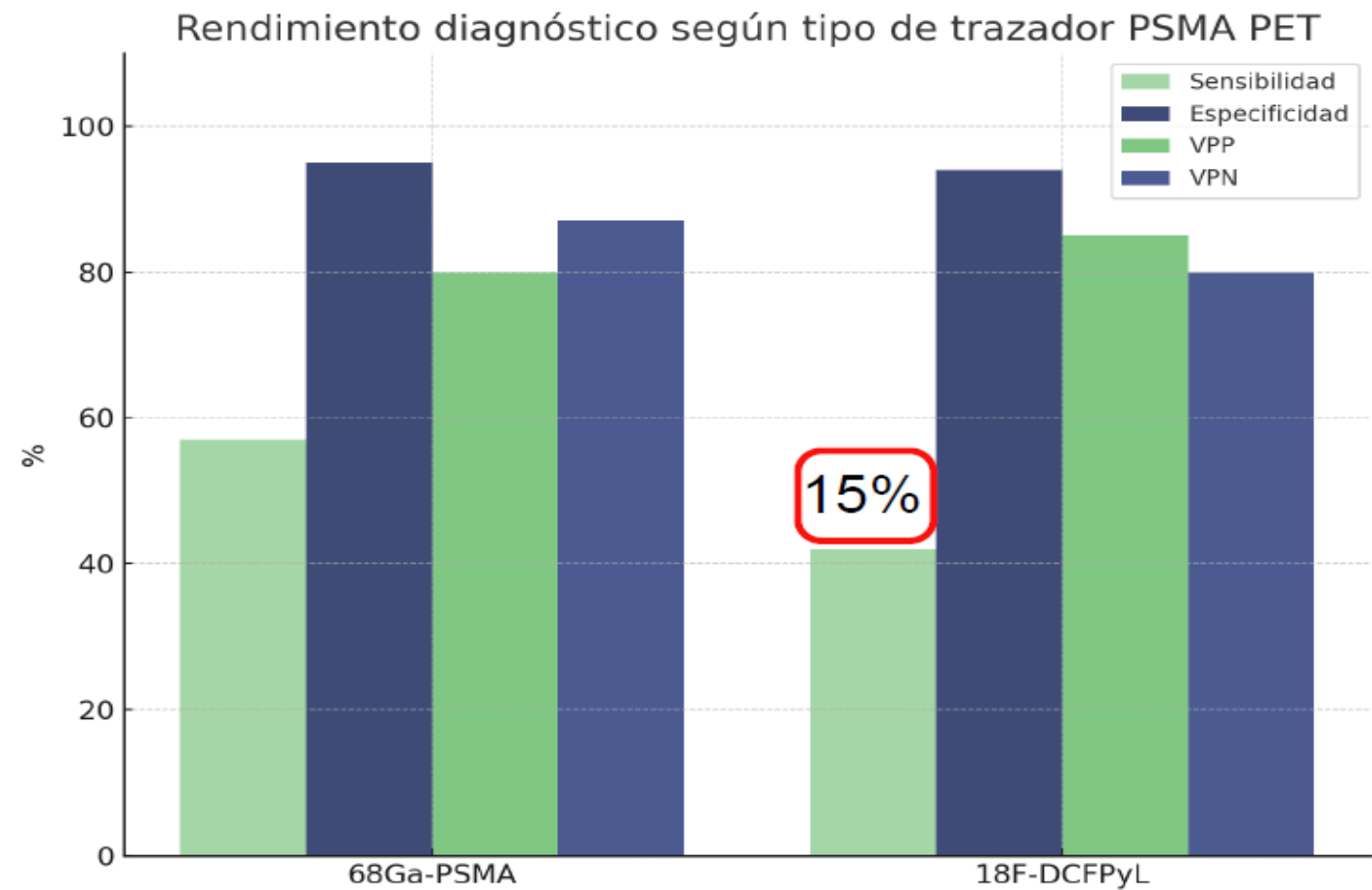
45 (19%) PET N0 had confirmed N1.

sensitivity 40%

specificity 95%

En pacientes de alto riesgo un PET/TC PSMA negativo no permite evitar la linfadenectomía pélvica

6. ESTADIFICACIÓN



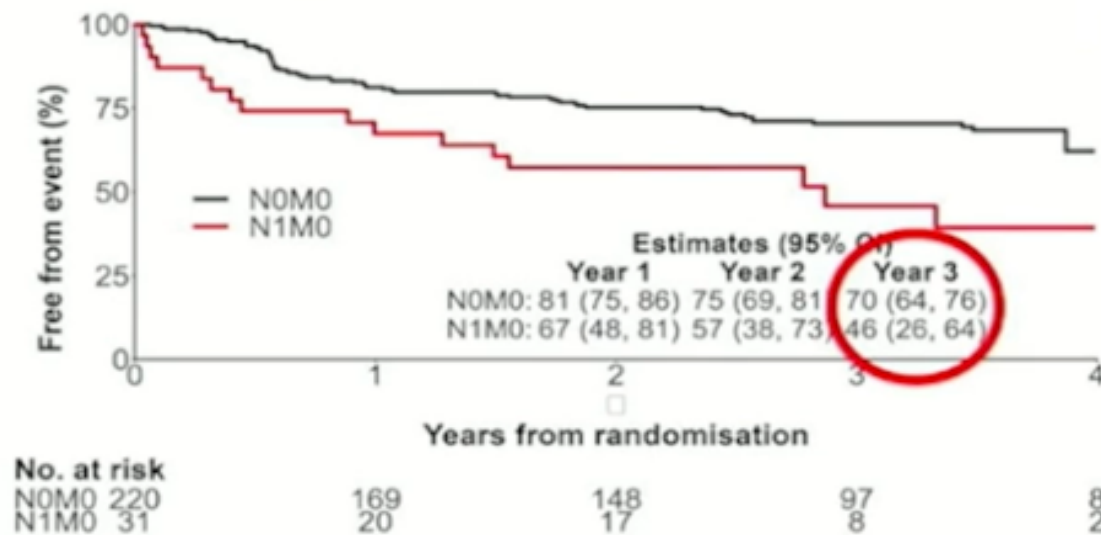
68Ga-PSMA 57%
18F-DCFPyL 42%

Sensibilidad significativamente mayor con 68Ga-PSMA ($p = 0.03$)

6. ESTADIFICACIÓN

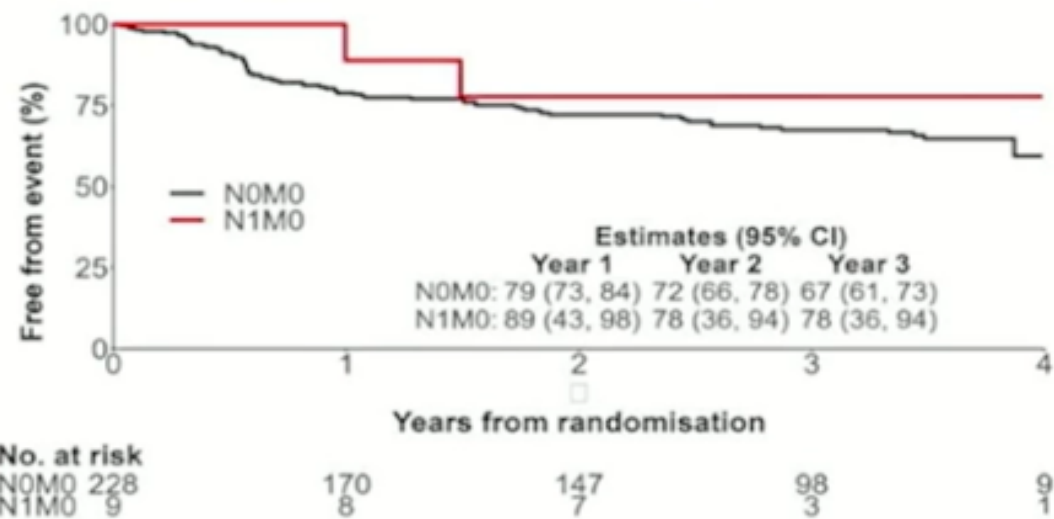
ESTADIFICACIÓN GANGLIONAR PRONÓSTICO A MEDIO PLAZO

PSMA PET/CT



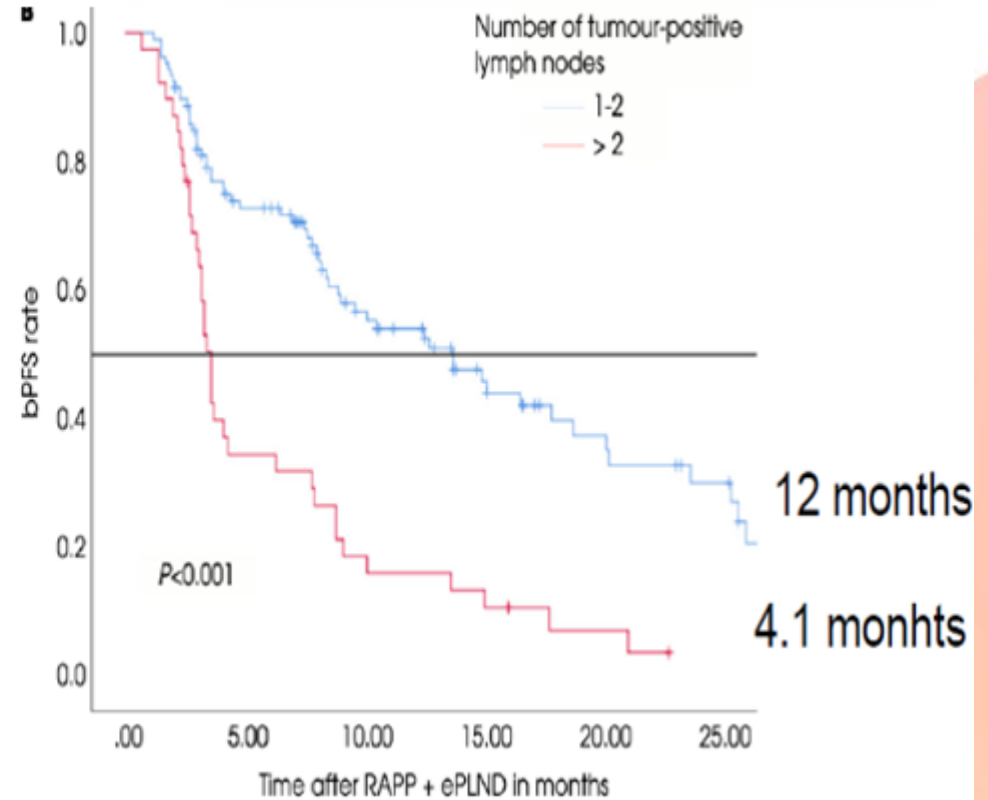
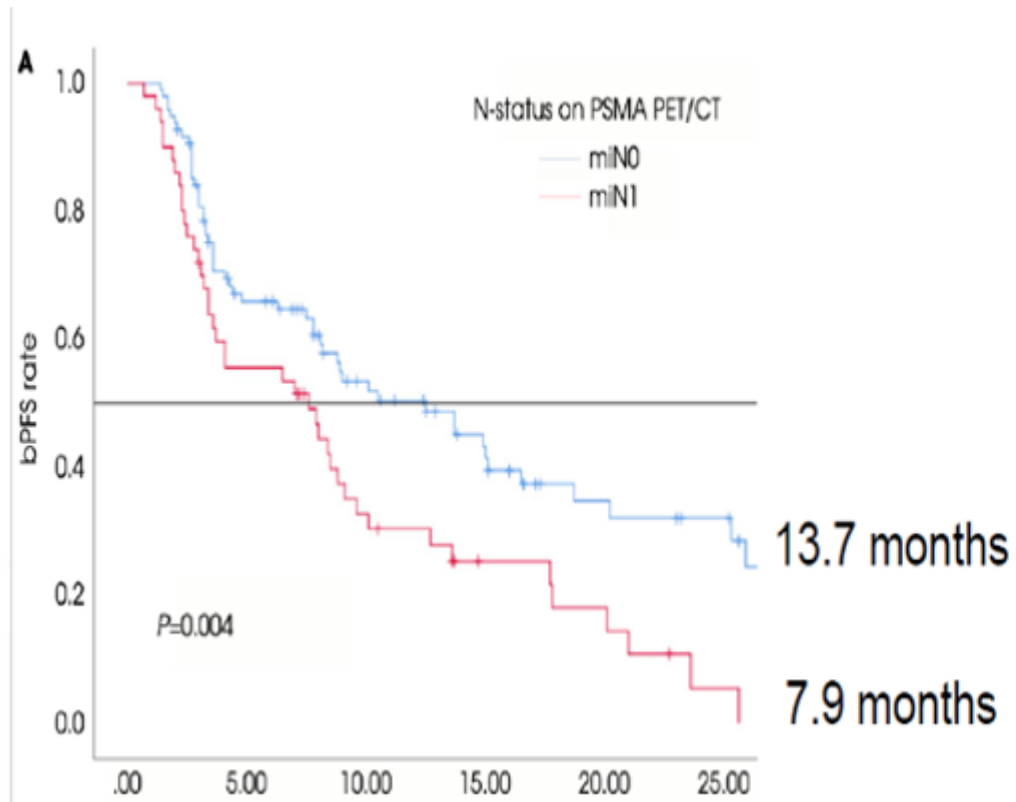
HR 2.1 (95%CI 1.2 - 3.7), p=0.01

Conventional CT



HR 0.6, (95%CI 0.1-2.4), p=0.45

6. ESTADIFICACIÓN



valor pronóstico de la estadificación ganglionar con PSMA y linfadenectomía pélvica extendida en pacientes con cáncer de próstata con afectación ganglionar (N1).

6. ESTADIFICACIÓN

Negative PSMA PET can be used to avoid unnecessary pelvic lymph node dissection in intermediate risk prostate cancer

Reha-Baris Incesu^{1,4}, Felix Preisser^{1,4}, Florian Nohe¹, Tobias Maurer ¹, Markus Graefen¹ and Derya Tilki ^{1,2,3} ✉

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BACKGROUND: Prostate-specific membrane antigen (PSMA) positron emission tomography (PET) has a high negative predictive value (NPV) in determining lymph node invasion (LNI) in men with intermediate-risk disease undergoing radical prostatectomy (RP) and pelvic lymph node dissection (PLND). We hypothesized that PSMA PET may be used to reduce the number of unnecessary PLND procedures performed.

OBJECTIVE: To assess BCR-free survival of intermediate risk prostate cancer patients with a negative PSMA PET who underwent PLND vs. no PLND.

DESIGN, SETTING, AND PARTICIPANTS: Within a high-volume center database, we identified patients with Grade Group 2-3 and PSA ≤ 20 ng/ml who had a negative PSMA PET prior to RP between 2016 and 2021.

OUTCOME MEASUREMENTS AND STATISTICAL ANALYSIS: Kaplan–Meier analyses were used to compare BCR-free survival between patients with and without PLND.

RESULTS AND LIMITATIONS: Overall, 371 patients were identified. Of those, 333 (90%) underwent RP with PLND, while 38 (10%) had no PLND during RP. Median number of removed lymph nodes in patients with PLND was 16. The NPV of PSMA PET for LNI detection was 90.1%. Median follow-up was 36 months. The median preoperative PSA was 7.8 ng/ml. 59% had biopsy Grade Group 2 and 41% had biopsy Grade Group 3, respectively. BCR-free survival at 36 months after prostatectomy was 78.7% vs. 76.7% ($p = 0.8$) for patients with vs. without PLND. Main limitation is the absence of long-term oncologic outcomes.

CONCLUSIONS: In intermediate risk prostate cancer patients, a PLND may be avoided in the presence of a negative PSMA PET.

Prostate Cancer and Prostatic Diseases; <https://doi.org/10.1038/s41391-024-00930-z>

6. ESTADIFICACIÓN

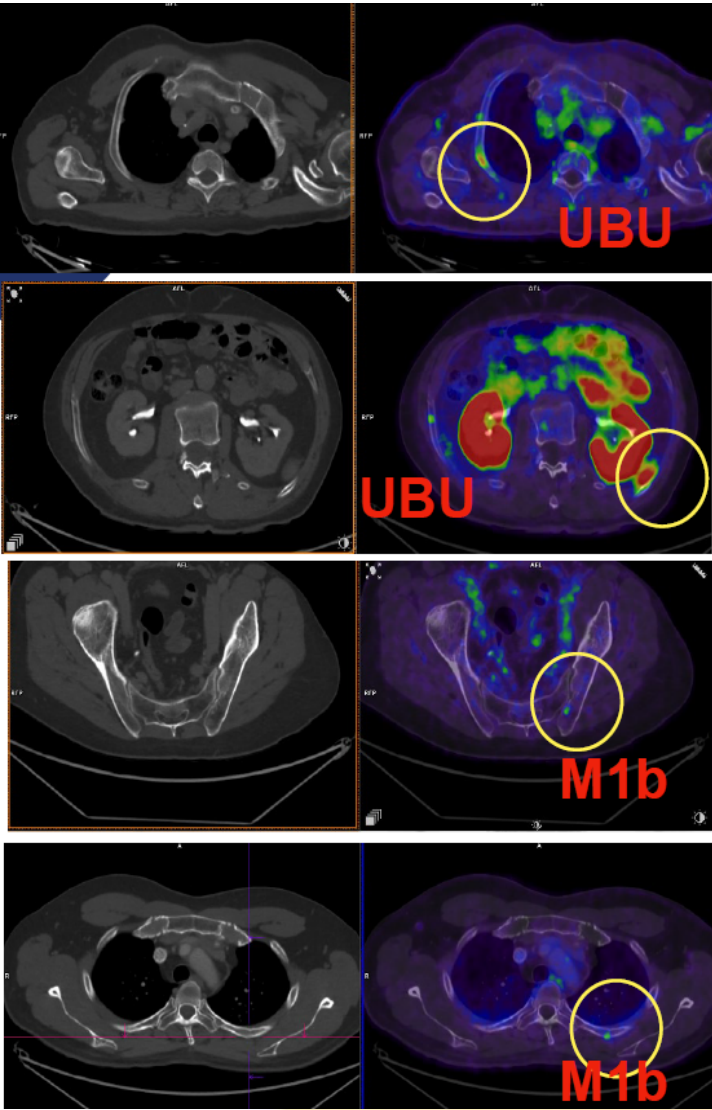
BONE SCAN SOBREESTADIFICA RESPECTO DE PSMA PET/TC

- Estudio multicéntrico restrospectivo
- VPP de **bone scan** es bajo en la estadificación inicial
- Alto número de **falsos positivos**
- Cambios en el manejo

n=167 patients	Initial staging
BS+/PSMA+ (TP)	10 (13)
BS-/PSMA- (TN)	51 (66)
BS+/PSMA- (FP)	13 (17)
BS-/PSMA+ (FN)	3 (4)

Bone scan	Estadificación	RBQ	CPRC
VPP	0.43	0.77	1.00
VPN	0.94	0.74	0.56
Especificidad	0.80	0.85	1.00

6. ESTADIFICACIÓN



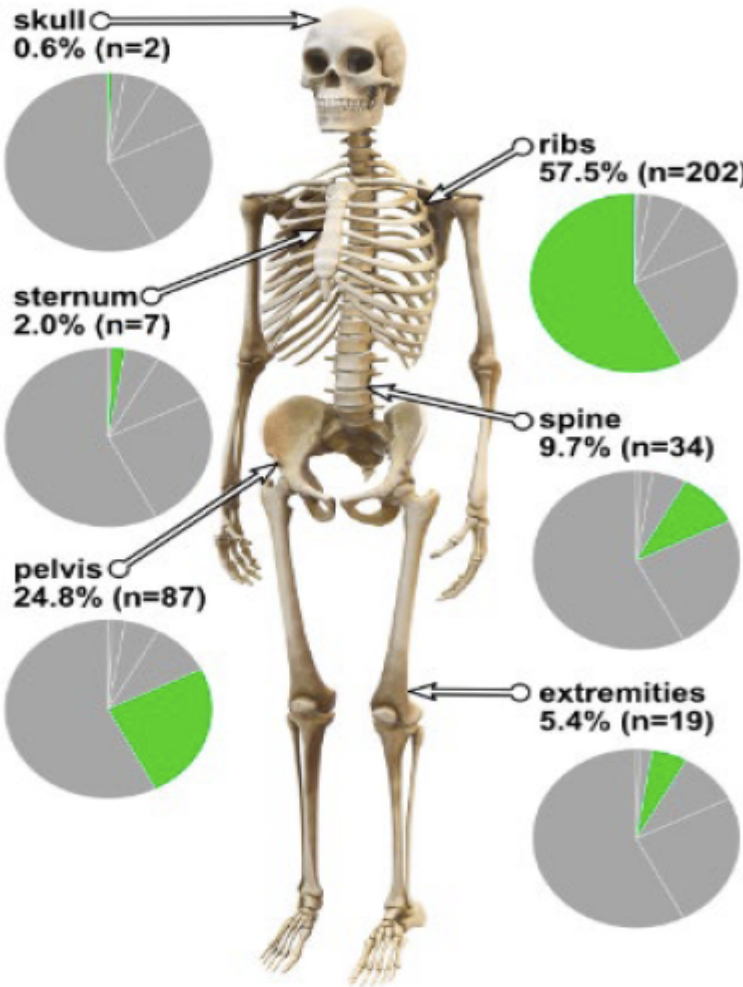
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European Journal of Nuclear Medicine and Molecular Imaging (2021) 48:4483–4494
<https://doi.org/10.1007/s00259-021-05424-x>

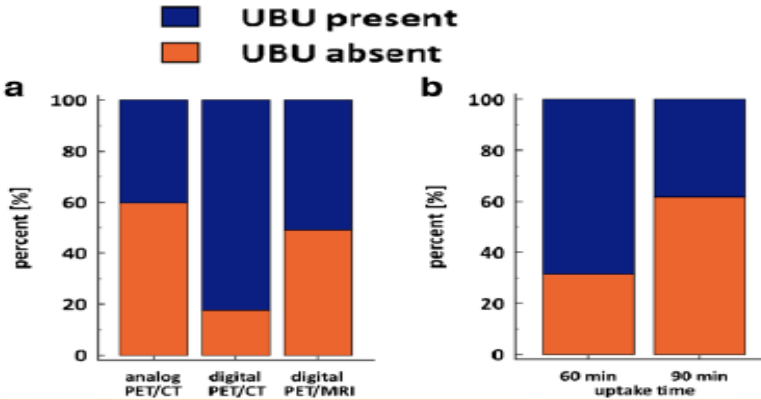
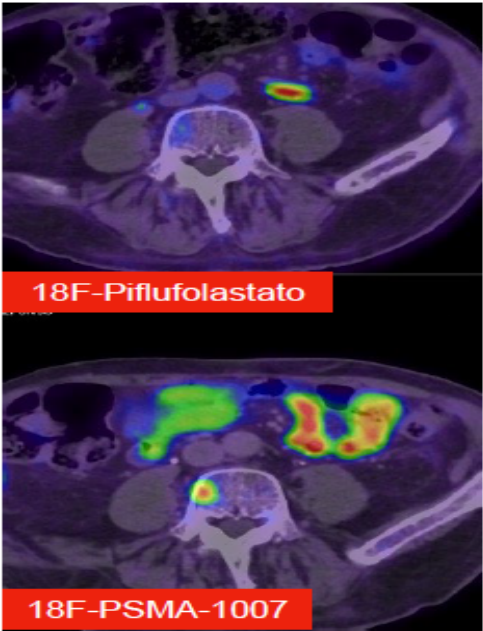
ORIGINAL ARTICLE



Focal unspecific bone uptake on [^{18}F]-PSMA-1007 PET: a multicenter retrospective evaluation of the distribution, frequency, and quantitative parameters of a potential pitfall in prostate cancer imaging

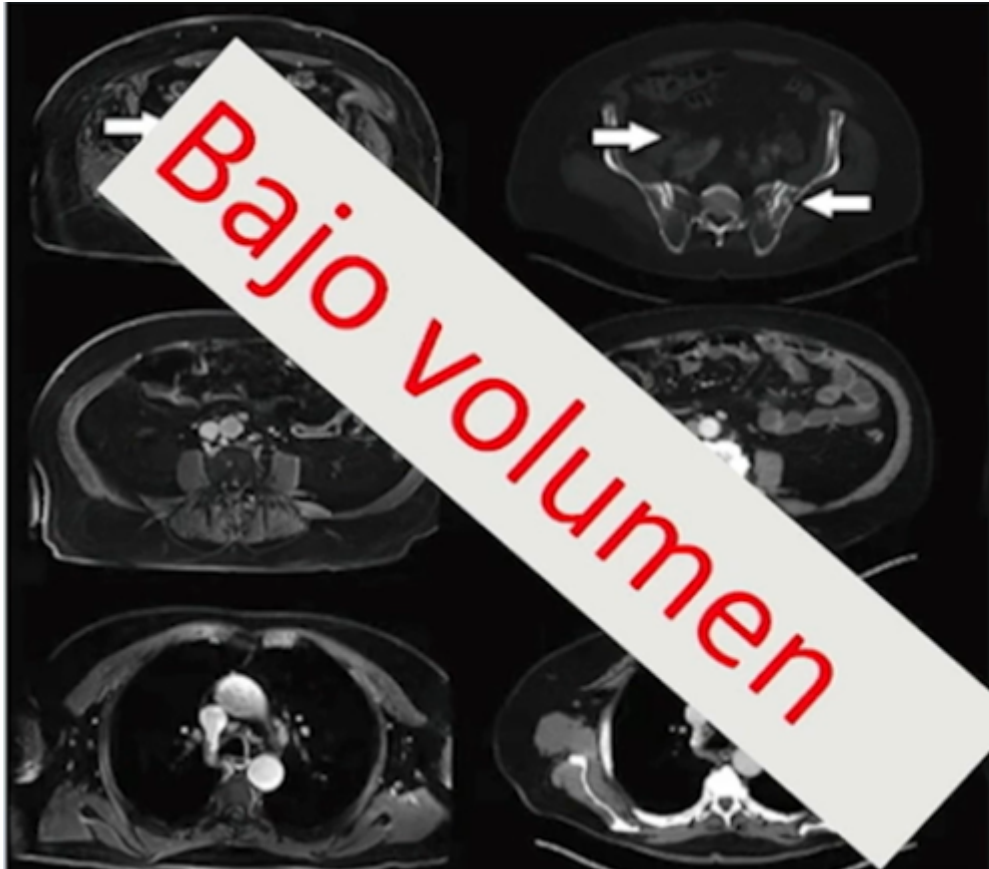


Same patient

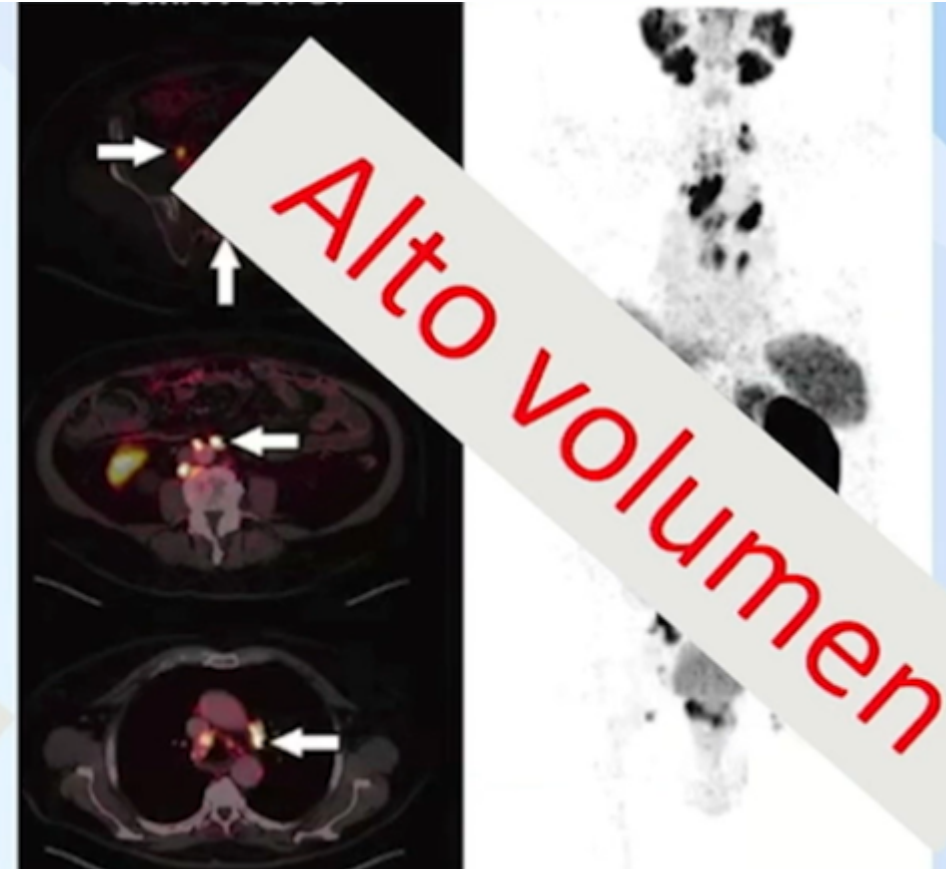


6. ESTADIFICACIÓN

G. pélvico + hueso

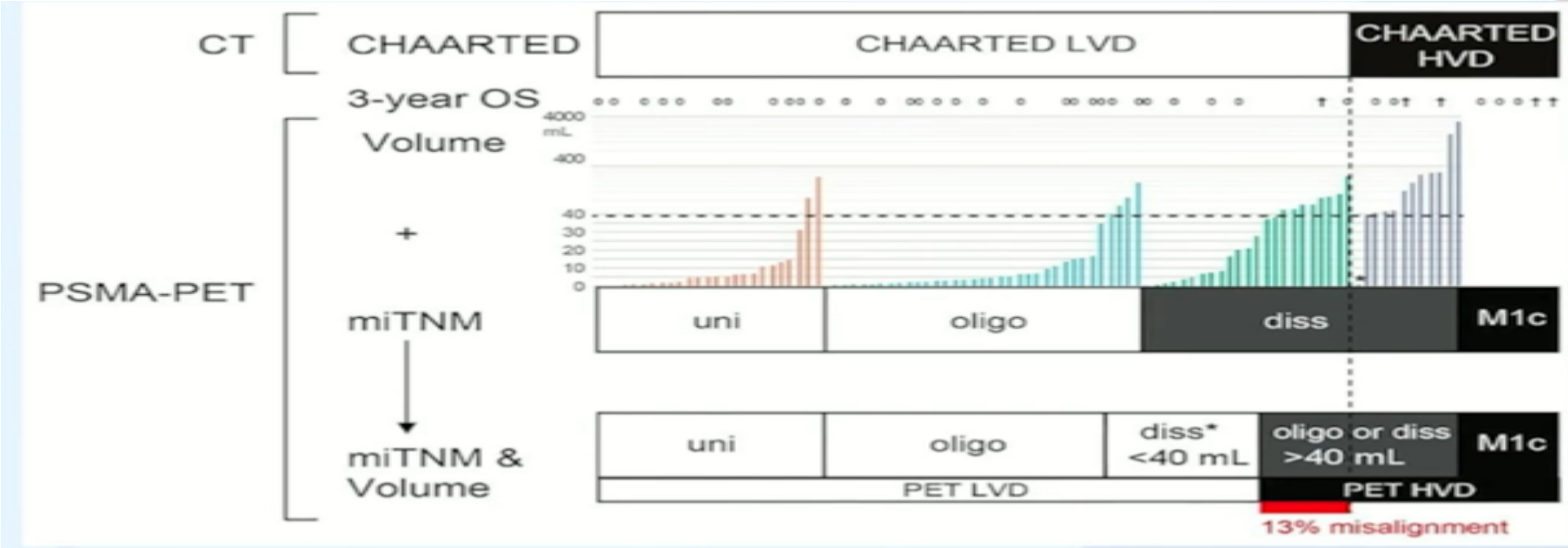


G. pélvico + retroperitoneal + mediastino + hueso



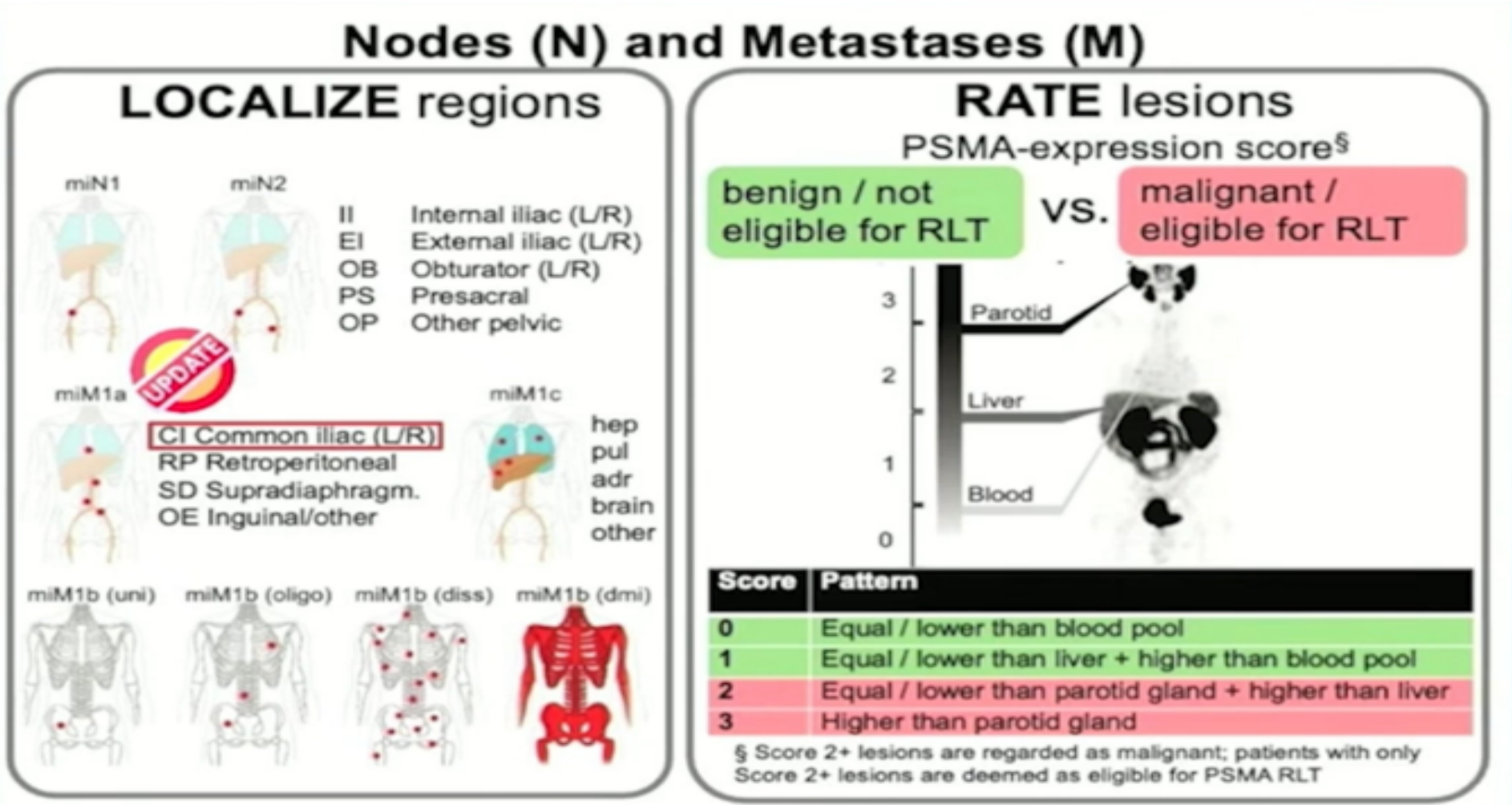
REDEFINIENDO CARGA TUMORAL

6. ESTADIFICACIÓN



Necesidad de definir criterios para alto/bajo volumen, importancia en la toma de decisiones terapéuticas

7. INFORME ESTRUCTURADO



Estandarización del informe: PROMISE V2

7. INFORME ESTRUCTURADO

EUROPEAN UROLOGY XXX (XXXX) XXX-XXX

available at www.sciencedirect.com

journal homepage: www.europeanurology.com



European Association of Urology



SPARC: The Standardised Prostate-specific Membrane Antigen Positron Emission Tomography/Computed Tomography Analysis and Reporting Consensus: A Delphi Analysis

Ken Herrmann^{a,b}, Jochen Walz^c, Steven MacLennan^d, Alberto Briganti^e, Philip Cornford^f, Johannes Czernin^g, Matthias Eiber^{h,i}, Stefano Fanti^j, Wolfgang P. Fendler^{a,b}, Karim Fizazi^k, Andrei Gafita^l, Silke Gillissen^{m,al}, Karolien Goffin^{n,ak}, Boris Hadaschik^{b,o}, Michael S. Hofman^{p,q}, Thomas A. Hope^r, Tobias Maurer^s, Alicia K. Morgans^t, Michael J. Morris^u, Declan G. Murphy^v, Daniela E. Oprea-Lager^w, Piet Ost^{x,y}, Joe M. O'Sullivan^z, Olivier Rouvière^{aa}, Shahneen Sandhu^q, Oliver Sartor^{ab}, Mike Machaba Sathekge^{ac,ad}, Clare Tempany^{ae}, Wim Witjes^{af}, Louise Emmett^{ag,ah}, Anders S. Bjartell^{ai,aj,*}

7. INFORME ESTRUCTURADO

Table 1 – Standardised reporting recommendations for PSMA PET/CT

Reporting system	Purpose	Ref
PRIMARY SCORE	Using intra-prostatic PSMA uptake patterns to optimise prostate cancer diagnosis	Emmett et al [17]
PROMISE (including miTNM, PSMA expression score)	Standardised reporting of whole-body PSMA PET findings	Eiber et al [21] Seifert et al [20]
PSMA-RADS	Structured reporting system for PSMA PET imaging	Rowe et al [49] Werner et al [27]
ePSMA	Consensus guideline on PSMA PET reporting	Ceci et al [50]
PPP (PSMA PET progression criteria)	Proposal for PSMA PET-based systemic therapy response assessment criteria	Fanti et al [51]
PCWG3	Framework for the response assessment of patients with mCRPC enrolled in clinical trials	Scher et al [52]
RECIP	PSMA PET-based response criteria for mCRPC patients undergoing PSMA RLT	Gafita et al [32]

CT = computed tomography; mCRPC = metastatic castration-resistant prostate cancer; miTNM = molecular imaging tumour, node, and metastasis; PET = positron emission tomography; PSMA = prostate-specific membrane antigen; Ref = reference; RLT = radioligand therapy.

7. INFORME ESTRUCTURADO

What does this study add?

There is a need for harmonisation and integration of existing prostate-specific membrane antigen positron emission tomography/computed tomography reporting systems. New reporting standards enabling large-scale prospective data collection are required. This study establishes a foundation for a dynamic, living iterative reporting system.

Clinical Relevance

Molecular imaging is revolutionizing the management of prostate cancer. The SPARC project delivers the first international, multidisciplinary consensus on standardized PSMA PET/CT analysis and reporting in prostate cancer, integrating existing classification systems into a unified framework. For uro-oncologists, this harmonization facilitates clearer communication with imaging specialists, ensures greater consistency in staging and restaging, and strengthens clinical decision-making at a multi-stakeholder level. Importantly, SPARC also provides a dynamic platform for future prospective trials and evolving guidelines, with the ultimate goal of improving patient care through clearer and more reproducible imaging reports. Associate Editor: Gianluca Giannarini, M.D.

Patient Summary

Prostate-specific membrane antigen (PSMA) positron emission tomography/computed tomography (PET/CT) scans are an integral part of patient management in prostate cancer. The Standardised PSMA PET/CT Analysis and Reporting Consensus project intends to improve intra- and interprofessional understanding of PSMA PET/CT reads. Standardised reporting of PSMA may improve patient care.

7. INFORME ESTRUCTURADO

68Ga

PSMA Report

PET/TC ESTRUCTURADO

INFORME

75%

Los datos permanecen solo en esta sesión.

01

PROTOCOLO

Adquisición

02

PREGUNTA

Datos clínicos

03

LOCAL

T

✓

04

PELVIS

N

✓

05

GANGLIOS DISTANTES

M1a

✓

06

HUESO

M1b

✓

07

VÍSCERAS

M1c

✓

08

SÍNTESIS

Informe

✓

?

Escalas rápidas

PRIMARY · mIPSMa · RADS

PROMISE V2

Localización, expresión y certeza.

GENERADOR CLÍNICO · 2026

NUEVO INFORME

VER INFORME

01

ADQUISICIÓN

Datos técnicos del estudio

Registra lo necesario para que el protocolo sea reproducible y sus limitaciones queden explícitas.

FECHA DEL ESTUDIO

dd/mm/aaaa

RADIOFÁRMACO

[68Ga]Ga-PSMA-11

ACTIVIDAD (MBQ)

p. ej., 150

Referencia EANM/SNMMI para 68Ga-PSMA-11: 111-259 MBq. Aplicar protocolo local.

VÍA / LUGAR DE INYECCIÓN

Intravenosa, antebrazo derecho

TIEMPO DE CAPTACIÓN (MIN)

60

COBERTURA

vértex a tercio medio de muslos

POSICIÓN

decúbito supino, brazos elevados

PROTOCOLO TC

TC de baja dosis para corrección de ate

CONTRASTE

sin contraste intravenoso

HIDRATACIÓN

hidratación oral

DIURÉTICO

no administrado

CALIDAD

Adecuada

ARTEFACTOS O LIMITACIONES

Movimiento, halo urinario, prótesis, extravasación...

BIODISTRIBUCIÓN

Biodistribución fisiológica del radiotrazador, sin alteraciones relevantes.

POOL SANGUÍNEO

HÍGADO

PARÓTIDA

SUVmean

SUVmean

SUVmean

RESUMEN VIVO

INDICACIÓN

Estadificación inicial

T

miT0

N

miN0

M

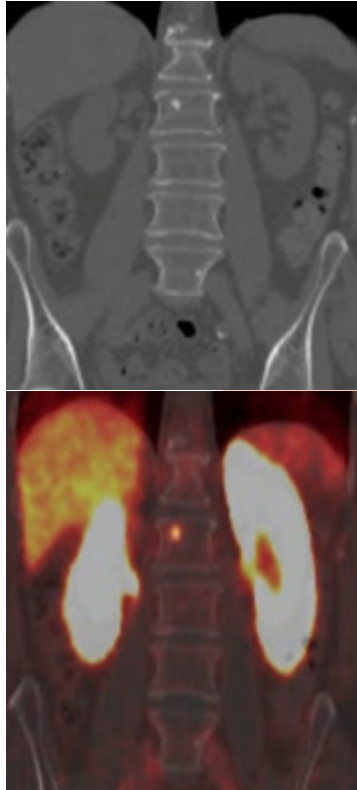
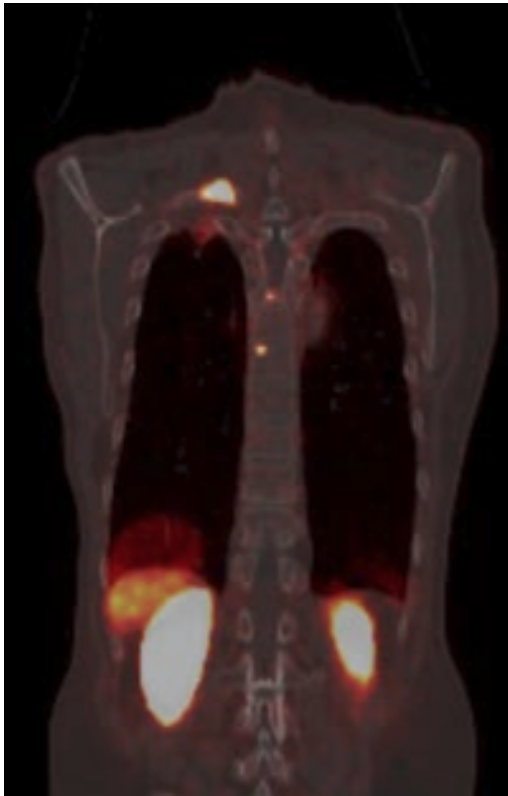
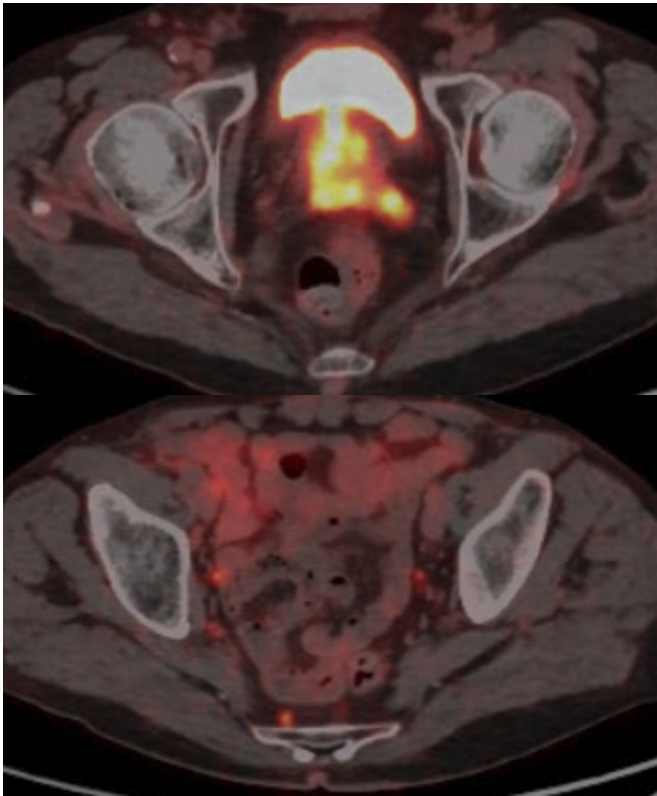
miM0

Abrir informe

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 GUARD
CONSORTIUM

7. INFORME ESTRUCTURADO



Localización captación	miTNM [a]	Tamaño	Número	SUVmax	Expresión visual PSMA [b]	Confianza del lector [c]
Próstata	T3b			15.9	3	5
Adp pélvis	N2	4 mm	7	16.6	2-3	5
Adp iliaca comun	M1a	6 mm	3	4.8	2	5
Hueso	M1b		11	22.2	2-3	5

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miTNM final:
T3bN2M1b (diss)

8. CONCLUSIONES



• Mayor precisión del PET-PSMA frente a CT+ GAMMAGRAFÍA ÓSEA



• Limitada sensibilidad para la detección de enfermedad ganglionar N (no excluir PLND) en alto riesgo



• Valor pronóstico de la estadificación N con PET-PSMA



• Es esencial una estadificación precisa en la planificación de tratamientos multimodales



• Futuros estudios para valorar el beneficio del paciente, ¿mejor supervivencia con mejor estadiaje?

¡Gracias!
Eskerrik asko!



Osakidetza

EZKERRALDE-ENKARTERRI-GURUTZETAKO ESI
OSI EZKERRALDEA ENKARTERRI CRUCES



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