Nowe możliwości diagnostyki i terapii izotopowej EANM 2022

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Klinika Endokrynologii i Terapii Izotopowej
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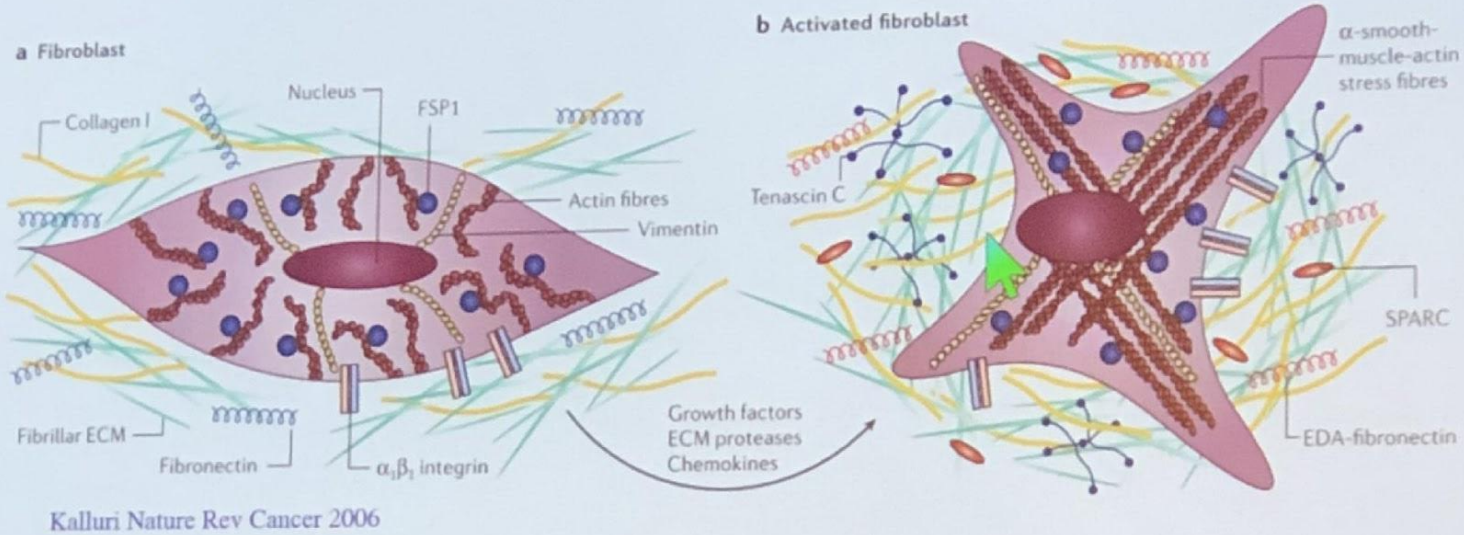
MAT-PL-2202548-1.0-11/2022

1. **Diagnostyka i terapia z użyciem FAPI – podsumowanie sesji**

2. **Analogi somatostatyny znakowane 18-fluorem - Nagroda Marii Curie**

Cancer-associated fibroblasts



Kalluri Nature Rev Cancer 2006

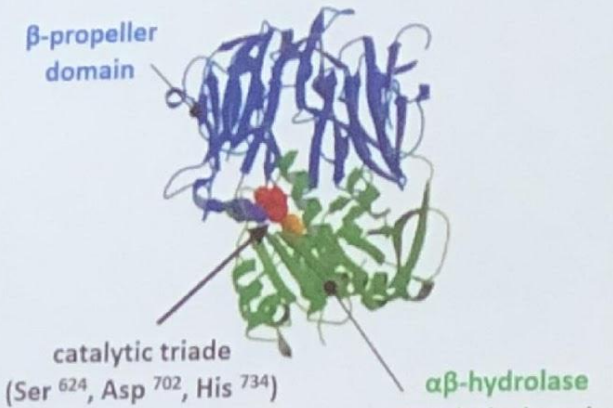
Normal fibroblasts:

- embedded in the extracellular matrix (ECM) of connective tissue
- support function by the production of collagen
- physiological role during wound healing

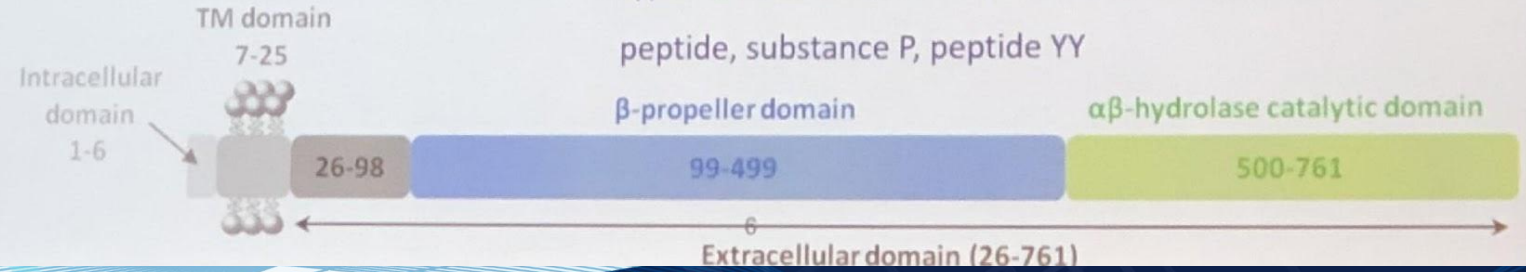
Activated fibroblasts:

- changes in morphology
- increased secretion of ECM-proteins, such as Collagen-I, Tenascin C
- pathological role during development, growth and metastases of cancer
- associated with poor prognosis
- Involved in therapy resistance

Fibroblast activation protein



- 170 kDa membrane-bound dimer, gelatinase, seprase, localized to invadopodia
- selective expression in epithelial tumors (breast, colon, pancreas, lung head and neck), bone- and soft tissue sarcomas, wound healing
- no or low expression in normal, adult tissues or in benign epithelial tumors
- DPPIV and FAP show similar dipeptidyl peptidase activity;
- identical domain structure with 50% or 70% sequence identity in the entire sequence or the catalytic domain
- unique endopeptidase activity to cleave gelatin, collagen type I and a2-antiplasmin, neuropeptide Y, B-natriuretic peptide, substance P, peptide YY

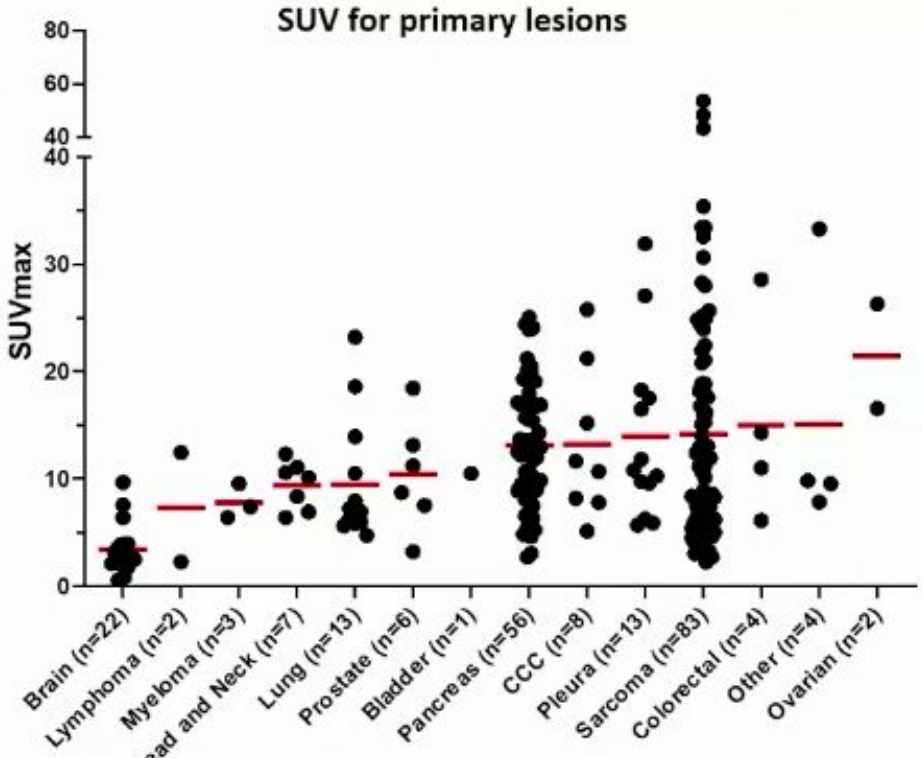


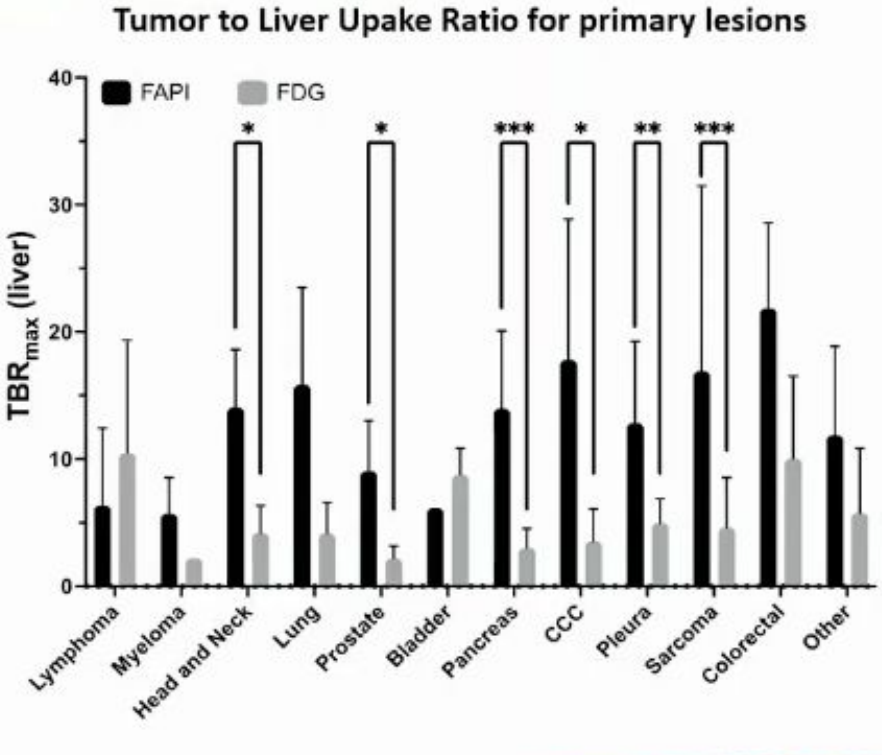
Title: Target Expression and FAP-Directed Tumour Imaging in a Large, Single-Centre PET Database of 324 Patients and 21 Tumour Entities

Wolfgang P. Fendler et al.

Department of Nuclear Medicine, West German Cancer Center, University Hospital Essen, Essen, Germany

FAPI and FDG PET for different tumor entities





OP-354

EANM'22 WORLD LEADING MEETING

Abstract #2342

Comparison of 68Ga-FAPI-46 PET/CT and 18-FDG PET/CT in breast carcinoma staging: Results of 100 patients:

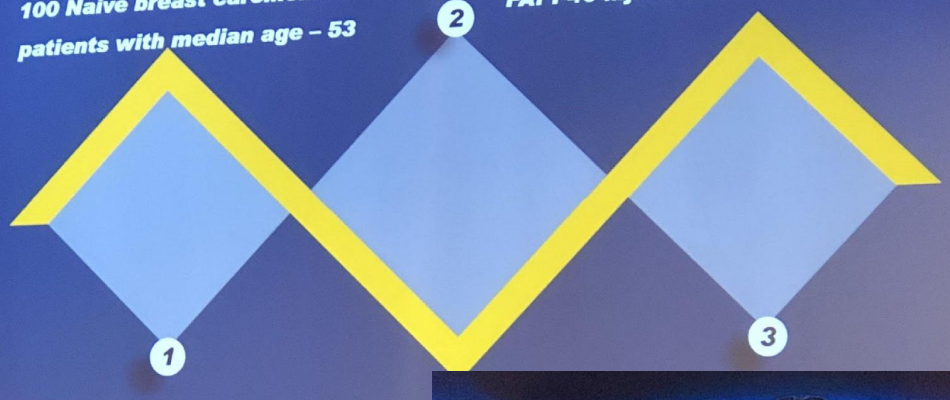
F. Novruzov[1], E. Mehdi[1], N. Orucova[1], G. Aliyeva[1], F. Giesel[2], F. Valla[3], S. Rahimzade[4], J. Aliyev[5];

[1]Azerbaijan National Centre of Oncology, Department of Nuclear Medicine, Baku, AZERBAIJAN, [2]University Hospital Düsseldorf, Department of Nuclear Medicine, Dusseldorf, GERMANY, [3]SOFIE, Director RCM, Totowa, NJ, UNITED STATES OF AMERICA, [4]Azerbaijan National Centre Of Oncology, Department of Woman Health, Baku, AZERBAIJAN, [5]Azerbaijan National Centre Of Oncology, Department of General Surgery, Baku, AZERBAIJAN.

METHODOLOGY

100 Naive breast carcinoma patients with median age – 53

Scan was done 10-minute, 30 minute and 1 hour after 68Ga-FAPI-46 injection



Pathology was confirm

Time is money ☺

When aorta SUV mean values taken as a background, 30th minute tumor-to-background ratio was significantly higher than 10th minute scan values (p=0.001).

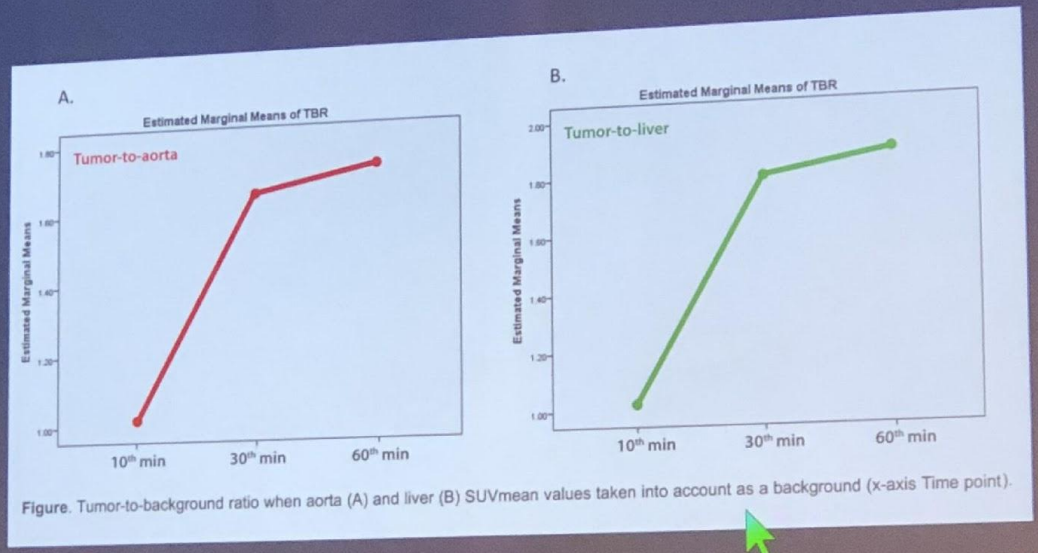
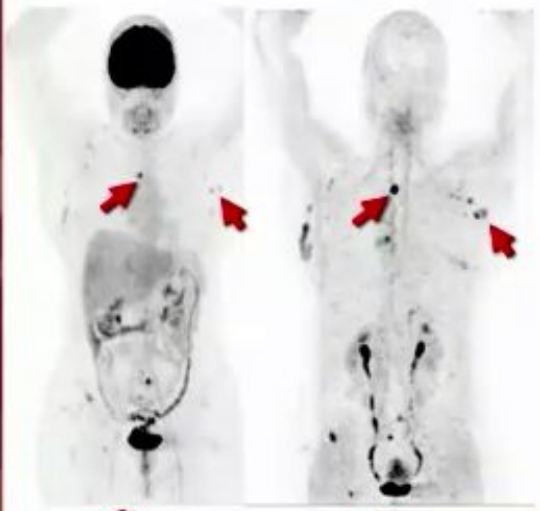
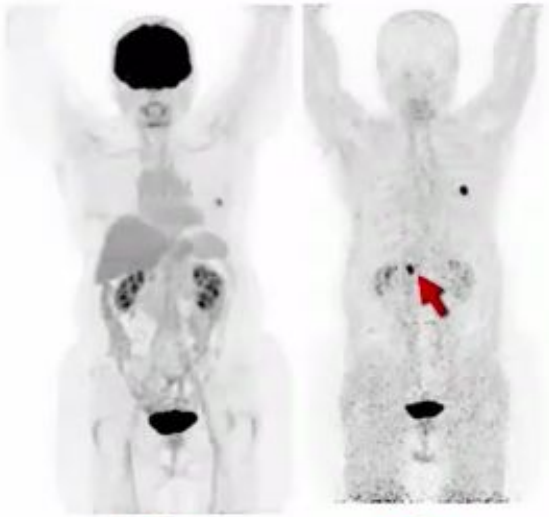


Figure. Tumor-to-background ratio when aorta (A) and liver (B) SUVmean values taken into account as a background (x-axis Time point).

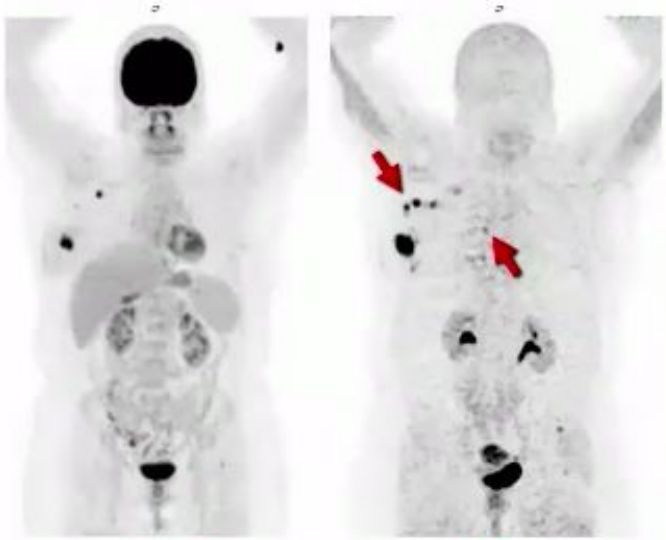
FAPI extra findings



Same lesions but with
high tumor-to-background ratio



FAPI reveals extra pancreatic lesion with pathology proven adenocarcinoma



FAPI found extra internal mammarian and axillary lymph nodes

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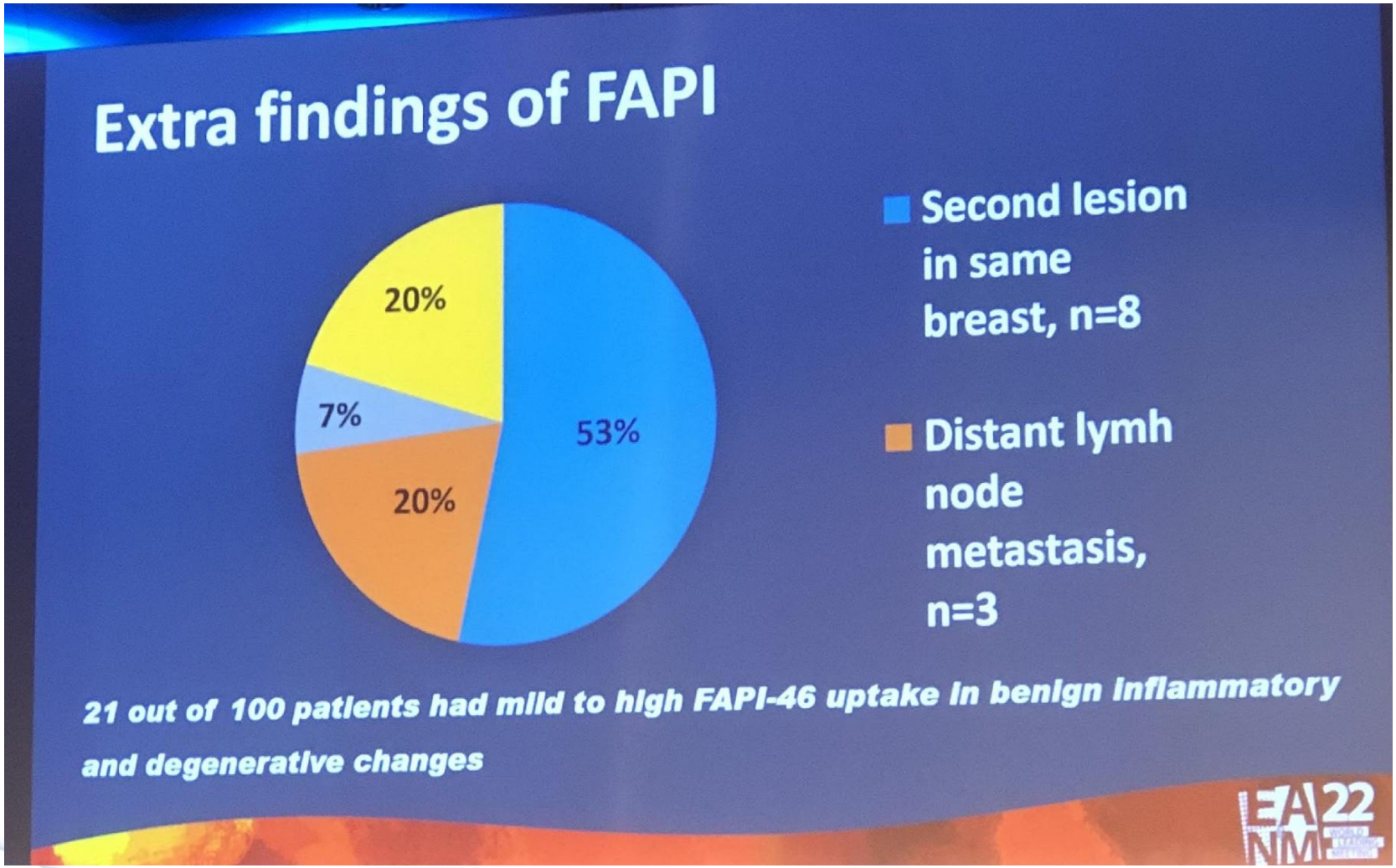
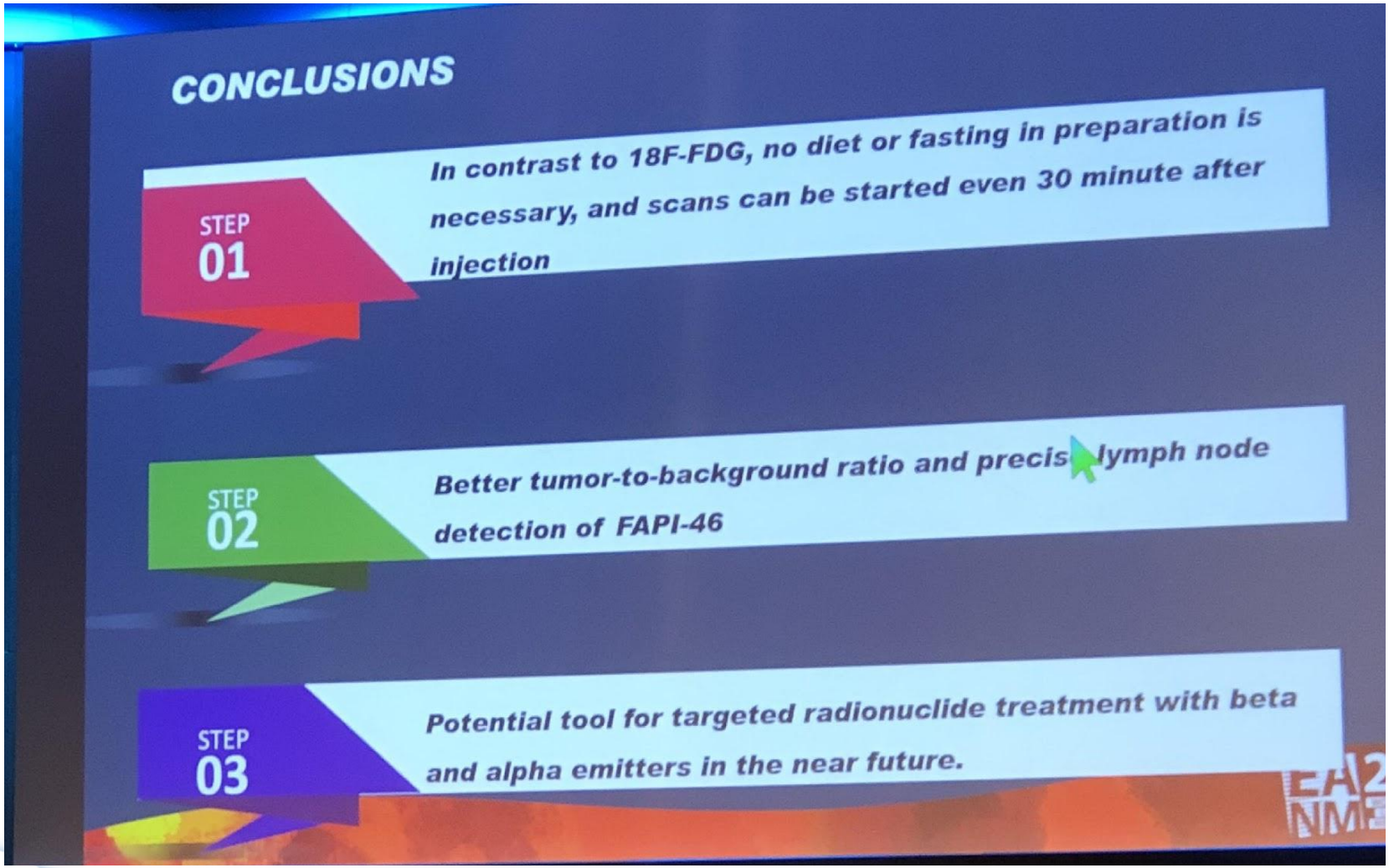

Extra findings of FAPI
20%
7%
53%
20%
Second lesion in same breast, n=8
Distant lymh node metastasis, n=3
21 out of 100 patients had mild to high FAPI-46 uptake in benign inflammatory and degenerative changes
EANM 22

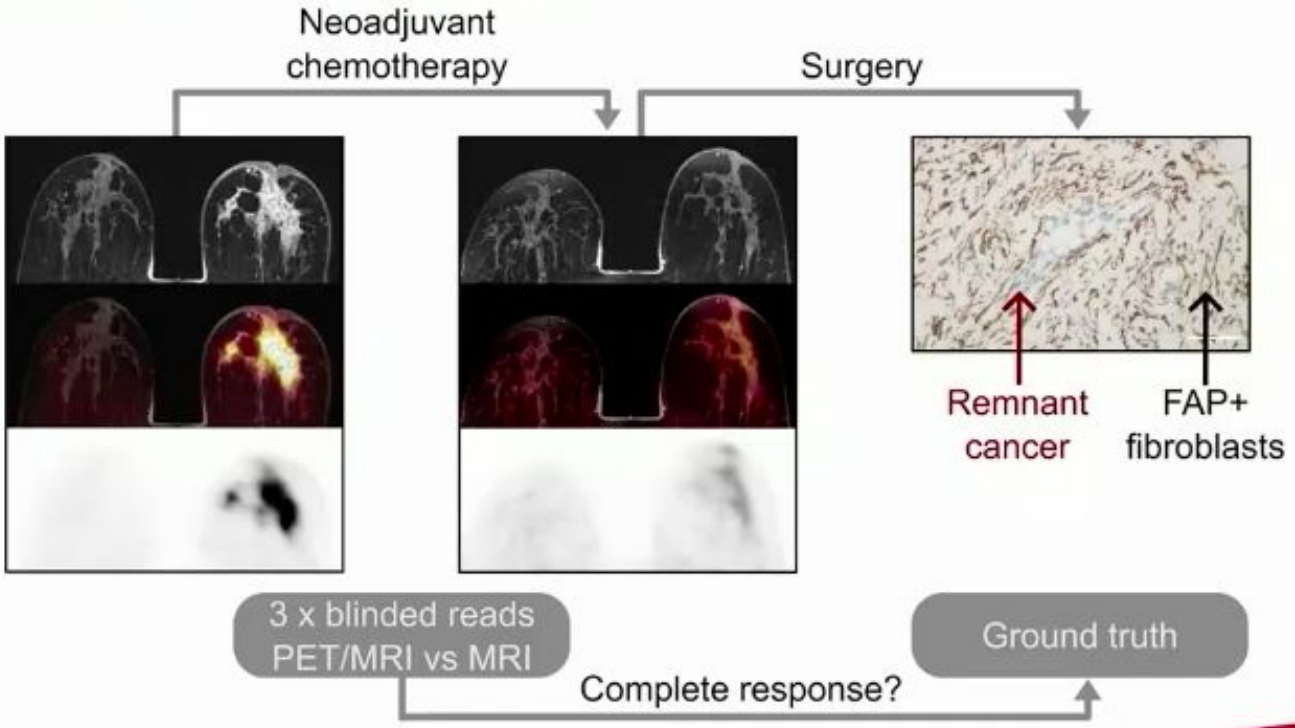

CONCLUSIONS
STEP 01
In contrast to 18F-FDG, no diet or fasting in preparation is necessary, and scans can be started even 30 minute after injection
STEP 02
Better tumor-to-background ratio and precis lymph node detection of FAPI-46
STEP 03
Potential tool for targeted radionuclide treatment with beta and alpha emitters in the near future.

First Results of FAPI-PET/MRI to Assess Response to Neoadjuvant Chemotherapy in Breast Cancer

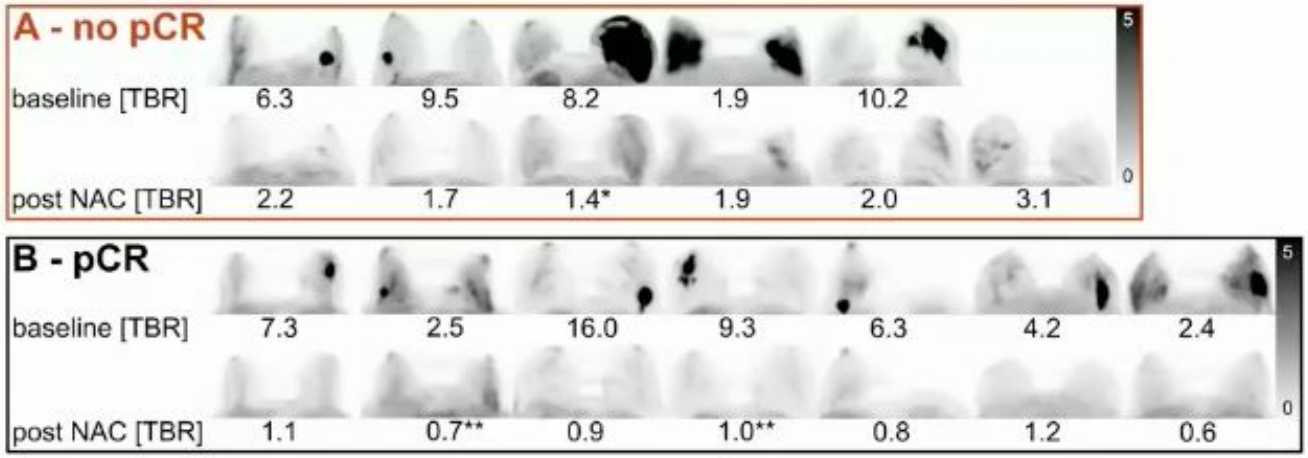
P. Backhaus[1,2,3], M. C. Burg[4], I. Asmus[1], M. Pixberg[1], F. Büther[1,2], H. Breyholz[1], S. Weigel[4], P. Stichling[4], W. Heindel[4], S. Bobe[5], P. Barth[5], J. Tio[6], M. Schäfers[1,2]

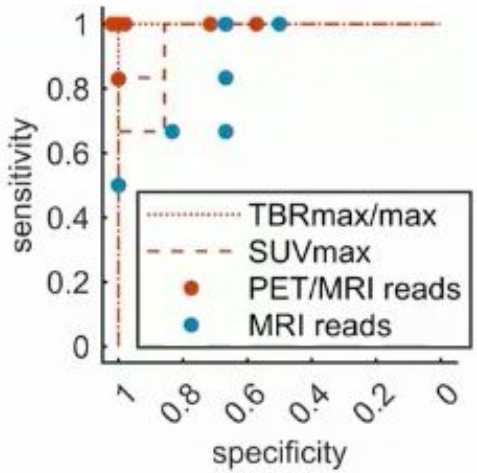
[1]Department of Nuclear Medicine, University Hospital Münster, Germany
[2]European Institute for Molecular Imaging, University of Münster, Germany
[3]Molecular Imaging and Therapy Service, Department of Radiology, Memorial Sloan Kettering Cancer Center, NYC, USA
[4]Clinic for Radiology, University Hospital Münster, Germany
[5]Gerhard-Domagk Institute for Pathology, University Hospital Münster, Germany
[6]Department of Gynecology & Obstetrics, University Hospital Münster, Germany

Can FAPI-PET/MRI predict pathological complete response?



FAPI-PET/MRI predicts response better than MRI alone in a small study sample





MATERIALS AND METHODS

Prospective interventional monocentric explorative study

Thoracic surgery and interventional pulmonology Patients referred to the Nuclear Medicine department of IRCCS AOU of Bologna, Policlinico S. Orsola from June 2021 to March 2022

Inclusion criteria:

- Patients with lung cancer suspicion/new diagnosis and an inconclusive or equivocal 18F-FDG PET/CT
- Age ≥18 years old/All genders
- Signed informed consent

Exclusion criteria:

- More than 14 days between the two PET/CT scans
- Oncological treatment between the two PET/CT scans and in the 3 months prior to them
- Pregnancy/breastfeeding/patients unable to perform PET

FAPI Uptake at 10 (early scan) and 60 minutes (late scan) after injection

Tumor-to-background ratios

For **68Ga-FAPI-46 PET/CT:**

TBR: lesionSUVmax/surrounding healthy background SUVmean;

For **18F-FDG PET/CT:**

TBR L (Liver): lesion SUVmax / healthy liver SUVmean

TBR B (Background): lesion SUVmax / surrounding healthy background SUVmean

Criteria to define a malignant/suspicious lesion:

FAPI: lesion SUVmax > 1.5 x healthy background SUVmax

FDG: lesion SUVmax > blood poolSUVmax

RESULTS: SUVmax/SUV mean analysis

- 30/32 Patients performed 10' and 60' 68Ga-FAPI-46 PET/CT scan; 1/32 performed the early (10') scan; performed the late (60') scan.
- The same malignant/suspicious lesions were observed for each patient in early and late scan (T, N, M)
- No statistical differences were found comparing FAPI/FDG lesion SUVmax/SUVmean values.

Mean SUVmax	FDG	FAPI 10'	FAPI 60'
T	9,4(range:0,8-35,7)	10,4(range:1,2-31)	10,6(range1,5-31,5)
N	6,1(range0,5-17,1)	7,6(range1-20)	7,6(range1,1-17,7)
M	12(range6,9-17,9)	11,2(range5,5-21,4)	12,8(range3,4-28)

RESULTS: TBR

FDG T TBR B (background) was significantly lower than **FAPI 60'**TBR (p=0,05).

Early scan **FAPI T TBR** values were lower than the late scan ones (p=0,03).

FDG T, N, M TBR L (Liver) values were lower than **FAPI TBR** values and a statistical difference was found in evaluating both **T** and **N** parameters (FDG vs FAPI 10';FDG vs FAPI 60';p<0,001).

RESULTS: **number of lesions**

FAPI and **FDG** PET/CT agreement:

T= 75%

N= 65.6%

M= 100% (limitation of the small M observation number)

	ACCURACY (FDG;FAPI)	SENSITIVITY (FDG;FAPI)	SPECIFICITY (FDG;FAPI)
T	67%; 89%	70%;100%	50%;25%
N	75%; 90%	60%;100%	80%;93%

CLINICAL CASE

62-yo female patient with suspected LC + suspected malignant LN on chest CT

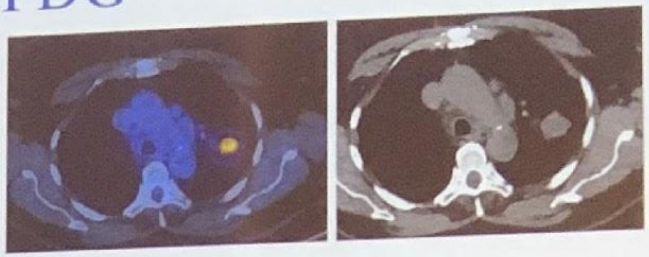
T FDG uptake (SUVmax=10.3), LN with faint equivocal uptake

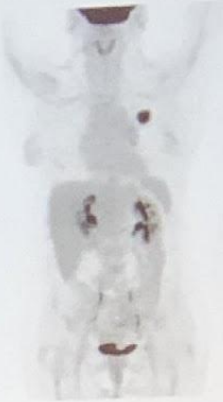
FAPI: T +LN clearly positive (SUVmax=20)

The patient had an adenocarcinoma with positive mediastinal lymph-nodes and was not eligible for surgery so underwent chemotherapy

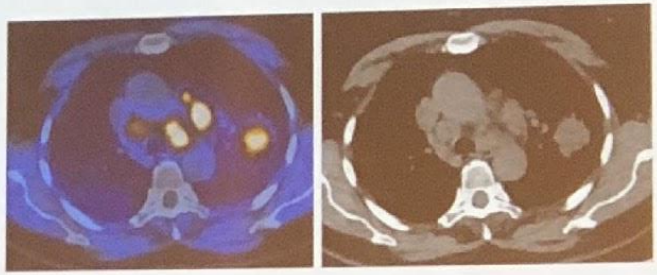
FDG T2aN0M0
FAPI T2aN3M0

FDG





FAPI



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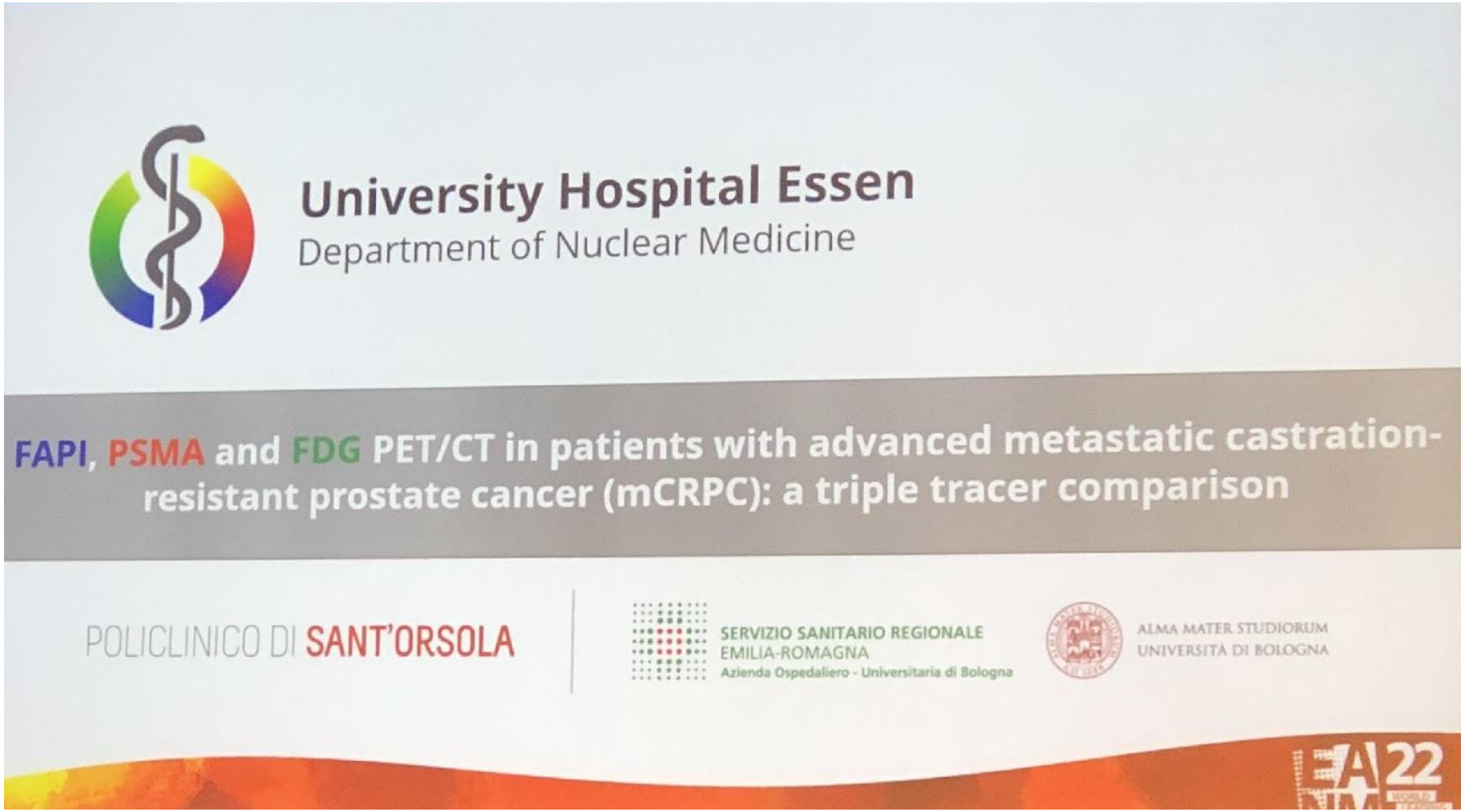

University Hospital Essen
Department of Nuclear Medicine
FAPI, PSMA and FDG PET/CT in patients with advanced metastatic castration-resistant prostate cancer (mCRPC): a triple tracer comparison
POLICLINICO DI SANT'ORSOLA
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliero - Universitaria di Bologna
ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Material and Methods:

- **10 patients** with advanced mCRPC underwent **[18F]F-PSMA/[68Ga]Ga-PSMA**, **[18F]F-FDG** and **[68Ga]Ga-FAPI-46** PET/CT scans for evaluation of RLT options.

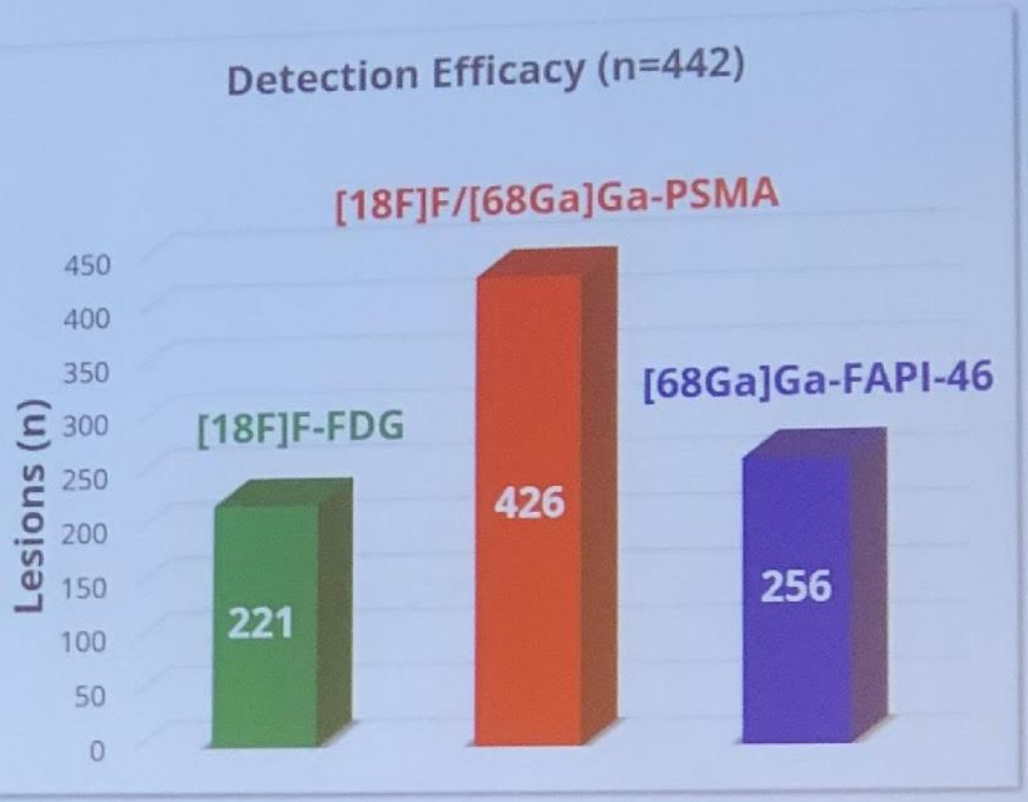
- Inclusion criteria for imaging and potential **PSMA** RLT were:
  - Condition after chemotherapy and Enzalutamide/Abiraterone
  - GFR >50 ml/min/1.73m³ BSA
  - WBC > 3.0/nl, Hemoglobin >8.0 mg/dl and Platelets > 75/nl

- Clinical inclusion criteria for **PSMA** RLT were:
  - Adequate **PSMA** uptake in the majority of tumor lesions (at least > liver ([68Ga]Ga-**PSMA**)/ > spleen ([18F]F-**PSMA**))
  - Lack of PSMA/FDG mismatches

Lesion-based analysis:

- Detection Efficacy:
  - **PSMA** demonstrates highest detection rate ($p<0.001$)
  - **FAPI** was superior to **FDG** ($p<0.05$)

- Mismatches:
  - **PSMA** negative/**FDG** positive: 11 lesions
  - **PSMA** negative/**FAPI** positive: 10 lesions



Conclusion:

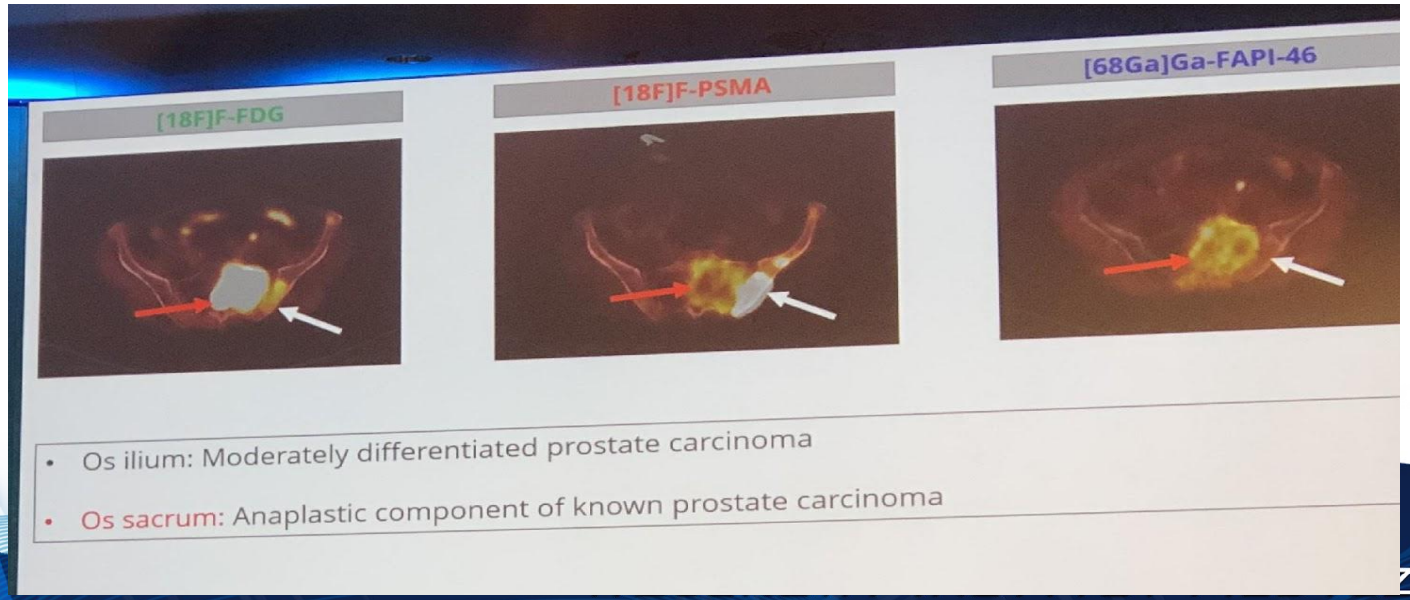
How does the promising tracer FAPI compare to PSMA and FDG...?

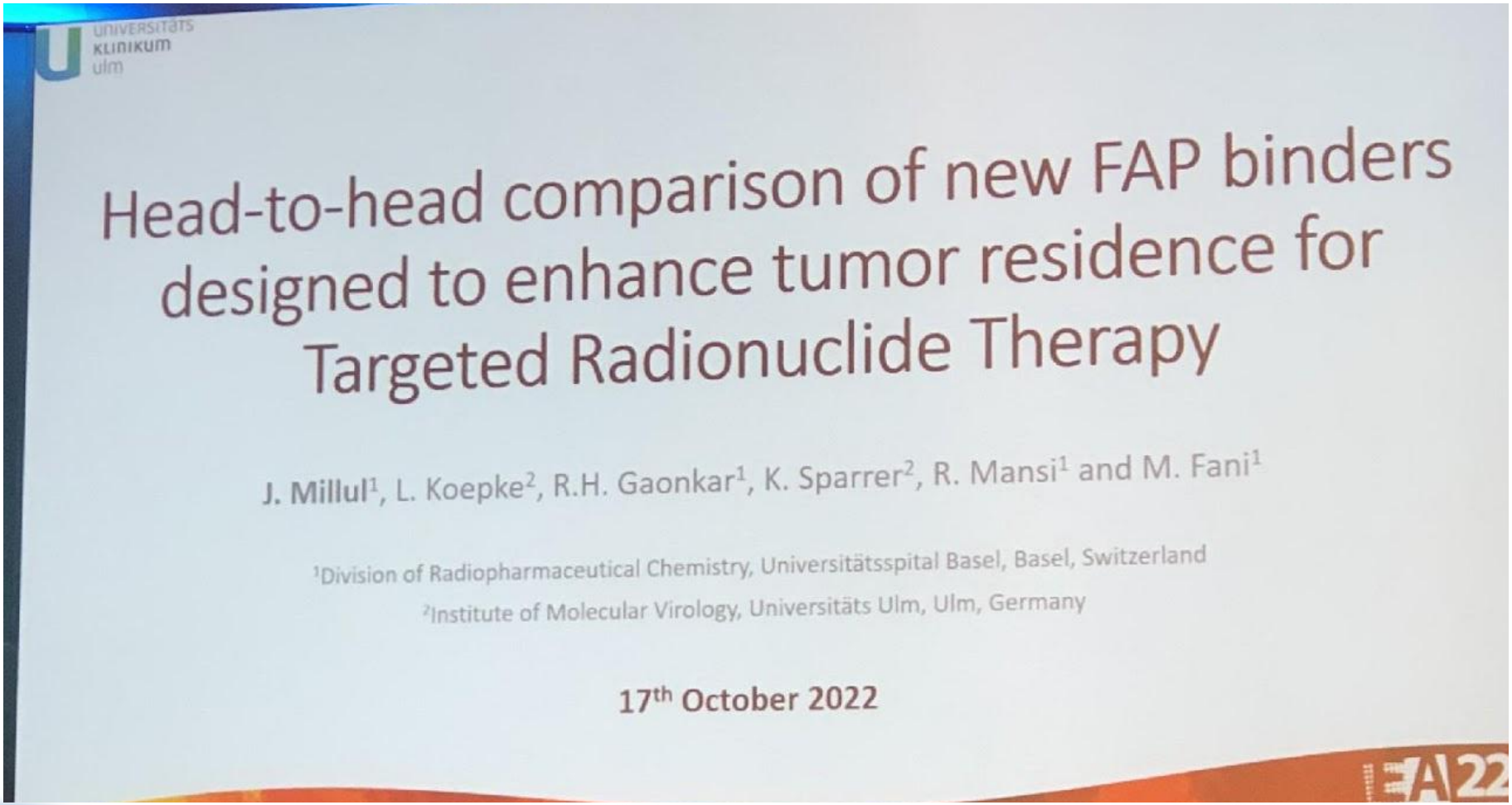
- **Lesion-based analysis:**
  - **PSMA** still shows highest detection rate of tumor lesions
  - However, **FAPI** is significantly superior to **FDG** regarding detection efficacy

...and may FAPI RLT represent a new treatment option?

- **Patient-based analysis:**
  - Identification of 2 phenotypes: **PSMA**-dominant and **PSMA**/**FAPI**/**FDG** balanced phenotype

Patient-based analysis: n=10



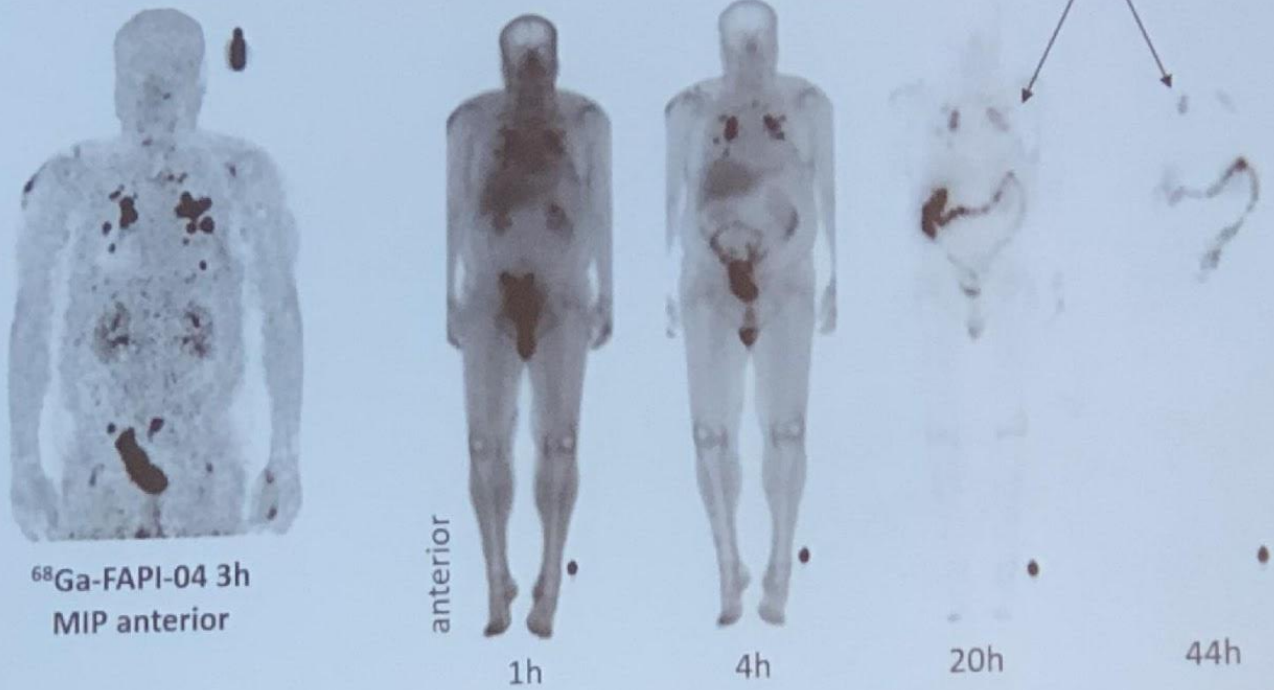

UNIVERSITÄTS
KLINIKUM
ulm
Head-to-head comparison of new FAP binders designed to enhance tumor residence for Targeted Radionuclide Therapy
J. Millul[1], L. Koepke[2], R.H. Gaonkar[1], K. Sparrer[2], R. Mansi[1] and M. Fani[1]
[1]Division of Radiopharmaceutical Chemistry, Universitätsspital Basel, Basel, Switzerland
[2]Institute of Molecular Virology, Universitäts Ulm, Ulm, Germany
17th October 2022

Basel

Main limitation of FAPIs as targeted radiotherapeutics

^{153}Sm-FAPI-46

Almost complete washout



^{68}Ga-FAPI-04 3h
MIP anterior

FAPIs have a **fast washout** from the tumor which impairs their use as radiotherapeutics

Proposed solutions from the literature

1. Increase the residence time of FAPI-46 by **dimerizing** the binding moiety (DOTA-2P(FAPi)2, DOTAGA.(SA.FAPi)2, ND-bisFAPI and BiOncoFAP)

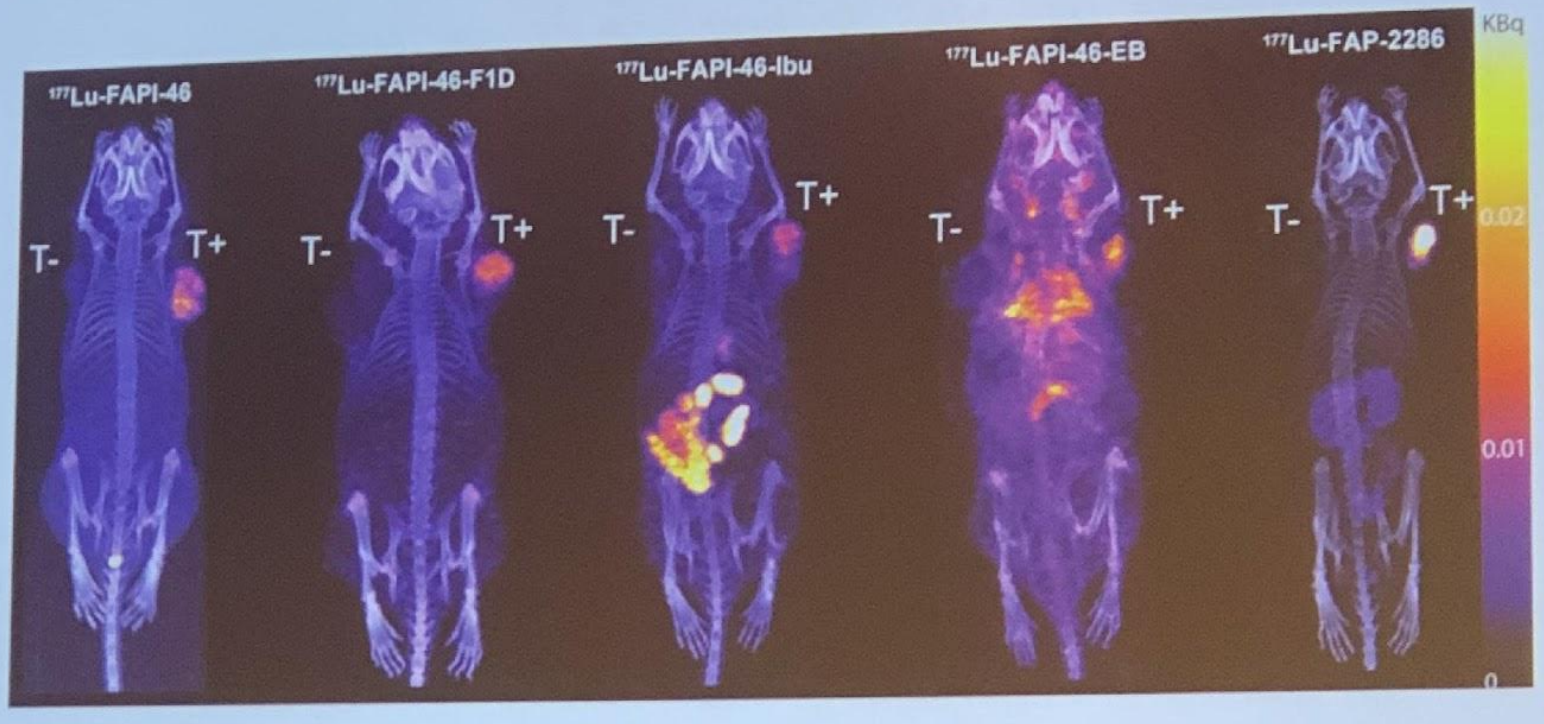
2. Increase the bloodstream circulation by **albumin binding** (e.g., Evan's Blue conjugates, fatty acid conjugates)

3. Different class of molecules: **cyclic peptide** (FAP-2286)

Aim of the work:

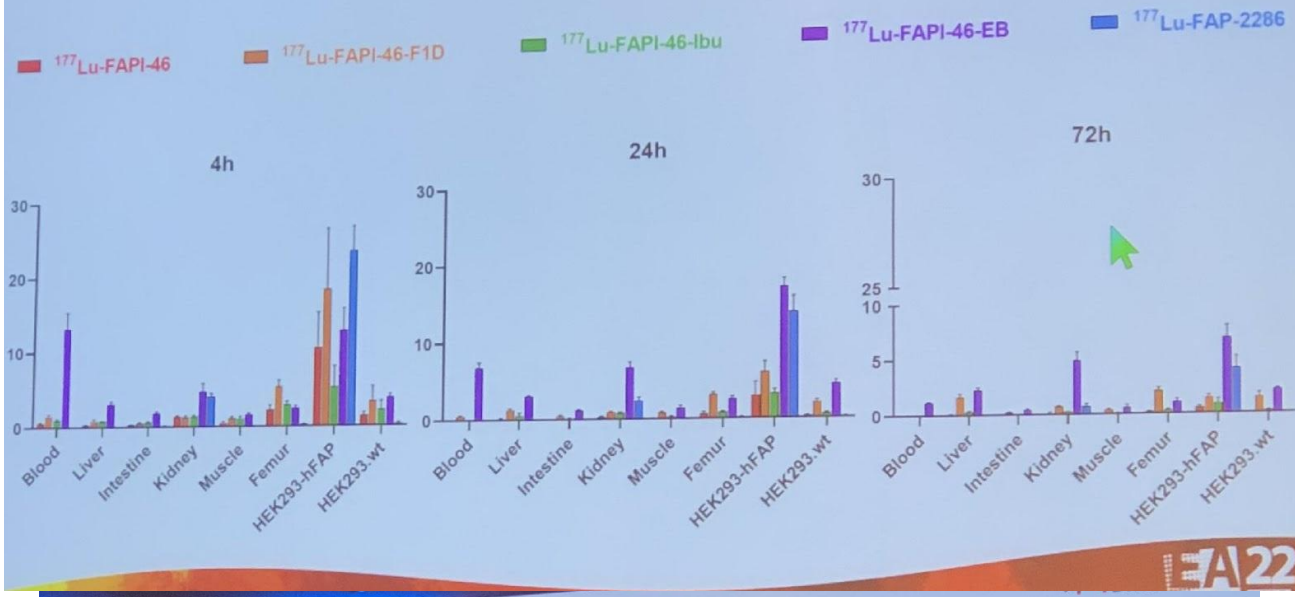
Which of the proposed strategies presents the best therapeutic index?

SPECT-CT imaging in HEK.hFAP (high FAP expression)

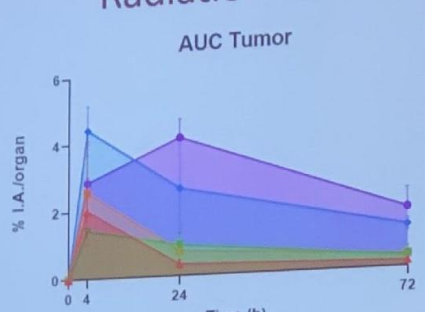


4h p.i., 0.5 nmol, 12-15 MBq

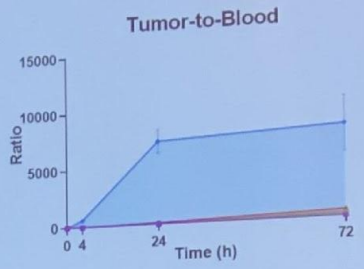
Quantitative Biodistribution in HEK.hFAP

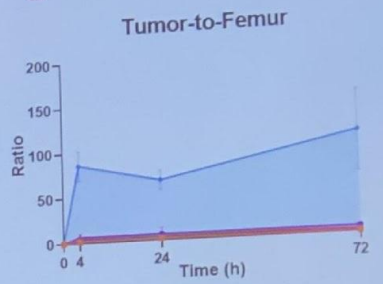


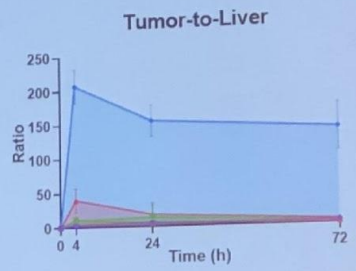
Radiation dose and tumor-to-critical-organs ratio

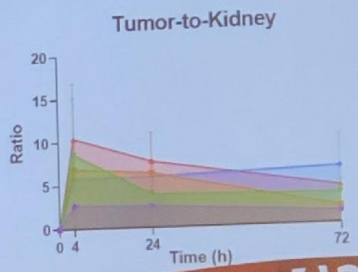


Radiotracer	AUC (IA/h)
177Lu-FAPI-46	40 ± 11
177Lu-FAPI-46-F1D	65 ± 17
177Lu-FAPI-46-Ibu	55 ± 14
177Lu-FAPI-46-EB	214 ± 23
177Lu-FAP-2286	170 ± 35









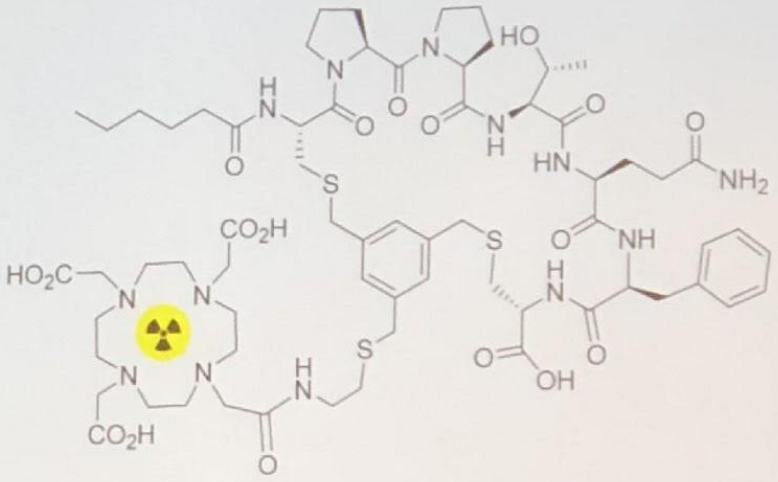
Conclusions and Outlooks

- Among the tested strategies, **the peptide FAP-2286** presents the best therapeutic index
- The study suggests that FAP-2286 could be used as a **successful molecule** for targeted radiotherapy targeting FAP
- The **washout remains a main liability** of FAP-targeted radiotherapy
- **Further evaluation** of the proposed strategies is currently ongoing in animal models bearing **low-density FAP** tumors

Millul et al., Manuscript in preparation

LuMIERE Trial With $^{68}Ga/^{177}Lu$-FAP-2286

- FAP-2286 is a cyclic peptide that binds to FAP with high affinity[1,2]
- LuMIERE (NCT04939610) is an ongoing multicenter open-label phase 1/2 study investigating ^{177}Lu-FAP-2286 in adult patients with advanced/metastatic solid tumors
- Prolonged tumor retention of ^{177}Lu-FAP-2286 has been observed in preclinical studies[3]



FAP-2286

^{68}Ga-FAP-2286 and ^{177}Lu-FAP-2286 are investigational agents.
FAP, fibroblast activation protein.
1. Zboralski et al. *Eur J Nucl Med Mol Imaging*. 2022;49:3561-67. 2. Kwan et al. *Mol Cancer Ther*. 2021;20(12_Supplement):LBA032.
3. Baum et al. *J Nucl Med*. 2022;63:415-23.

LuMIERE Phase 1 Patient Characteristics and Disposition

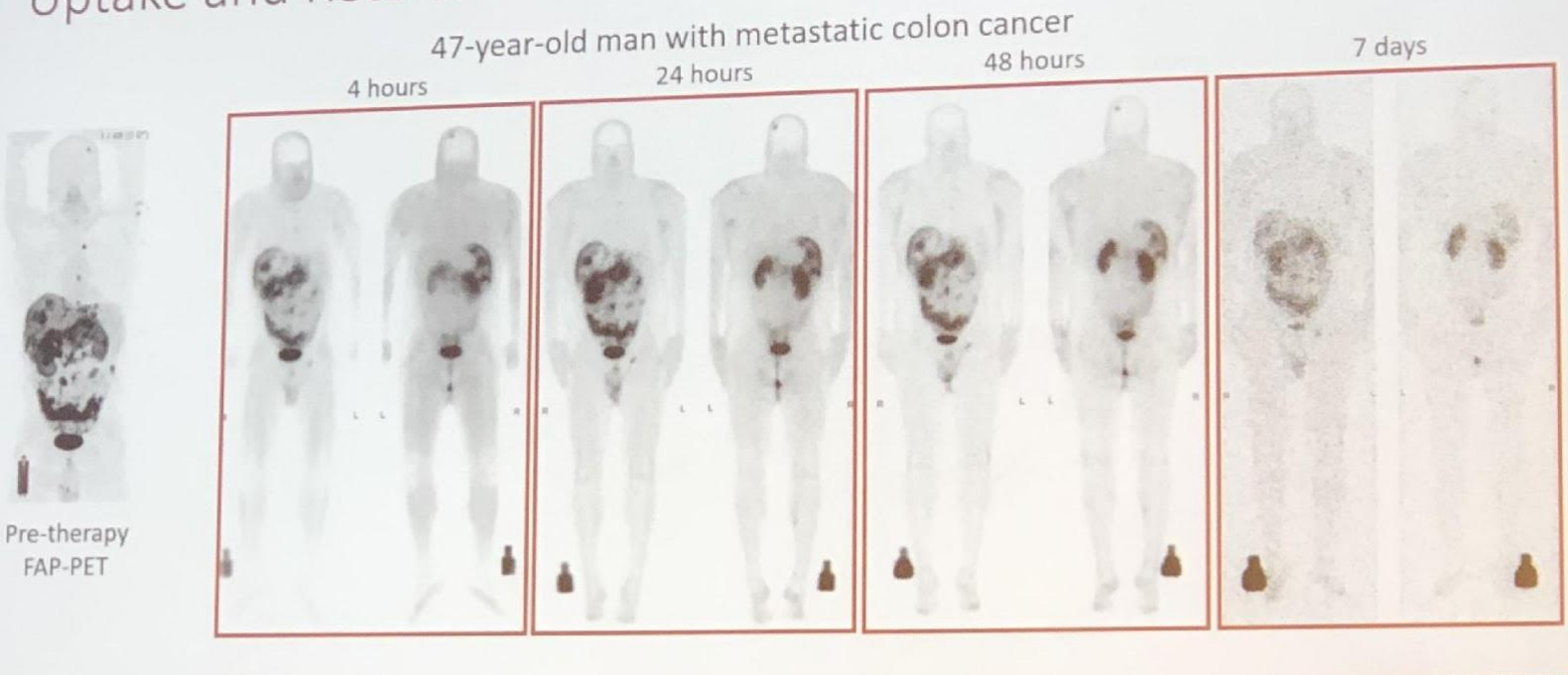
Characteristics	Total (N=11)
Median age, years (range)	64.0 (27–71)
Female, n (%)	4 (36.4)
Race, n (%)	
White	5 (45.5)
Black or African American	4 (36.4)
Asian	1 (9.1)
Not reported	1 (9.1)
ECOG PS 0, n (%)	5 (45.5)
Tumor and histological type, n (%)	
Colorectal adenocarcinoma	3 (27.3)
Pancreatic ductal adenocarcinoma	2 (18.2)
Adenoid cystic carcinoma	1 (9.1)
Gallbladder adenocarcinoma	1 (9.1)
Head and neck squamous cell carcinoma	1 (9.1)
Neuroblastoma	1 (9.1)
Pseudomyxoma peritonei of appendiceal origin	1 (9.1)
Soft-tissue sarcoma desmoplastic small round cell tumor	1 (9.1)
≥ 3 Prior anticancer therapies, n (%)	11 (100)

- 11 patients imaged with ^{68}Ga-FAP-2286 and treated with ^{177}Lu-FAP-2286 across cohorts
  - 3.7 GBq (n=3), 5.55 GBq (n=6), and 7.4 GBq (n=2)
- 8/11 of patients discontinued treatment due to disease or clinical progression, physician decision, or withdrawal of consent to treatment
- 1 patient completed 6 doses of 3.7 GBq ^{177}Lu-FAP-2286 with a confirmed PR and continues without disease progression or subsequent anti-cancer therapy >12 months after first dose
- Treatment in the 7.4 GBq cohort is ongoing

Data cutoff: Oct 3, 2022.
ECOG PS, Eastern Cooperative Oncology Group performance status; FAP, fibroblast activation protein; GBq, gigabecquerel; PR, partial response.

EA22

^{177}Lu-FAP-2286 Post-Therapy Imaging Shows Good Tumor Uptake and Retention



FAP, fibroblast activation protein; PET, positron emission tomography.

Radiation-absorbed doses, mean (SD), Gy/GBq	^{177}Lu-FAP-2286	^{177}Lu-DOTATATE[1]	^{177}Lu-PSMA-617[2,3]
Kidneys	0.402 (0.162)	0.654 (0.295)	0.43 (0.16)
Red marrow	0.026 (0.014)	0.035 (0.029)	0.04 (0.02)

^{177}Lu-FAP-2286 Adverse Events Assessment

- TEAEs were mostly Gr 1 and 2 across cohorts
- One Gr 4 lymphopenia related to the study drug was observed in 1 patient in the 5.55 GBq cohort and was considered a DLT*
- No serious AEs and no treatment discontinuations related to the study drug were reported

Most common TEAEs[a]	Safety population (N=11)	
	Any grade, n (%)	Grade ≥3, n (%)
At least 1 TEAE	10 (90.9)	5 (45.5)
Fatigue[b]	5 (45.5)	0
Anemia[b]	3 (27.3)	0
Arthralgia[b]	3 (27.3)	0
Abdominal distension	2 (18.2)	1 (9.1)
Back pain	2 (18.2)	0
Constipation	2 (18.2)	0
Diarrhea[b]	2 (18.2)	0
Cholangitis	1 (9.1)	1 (9.1)
Hyponatremia	1 (9.1)	1 (9.1)
Increased blood bilirubin	1 (9.1)	1 (9.1)
Lymphopenia*,[b]	1 (9.1)	1 (9.1)
Spinal compression fracture	1 (9.1)	1 (9.1)

Data cutoff: Oct 3, 2022.
*Patient had grade 2 lymphopenia at baseline.
[a]TEAEs (any causality) either any grade events occurring in ≥2 patients or any grade ≥3. [b]Treatment-related TEAEs.
AEs, adverse events; DLT, dose-limiting toxicity; FAP, fibroblast activation protein; Gr, grade; GBq, gigabecquerel; TEAE, treatment-emergent adverse event.

Conclusions

- FAP is a promising theranostic target with expression across many tumor types
- ^{68}Ga-FAP-2286 demonstrated high uptake across multiple types of solid tumors
  - Intra- and interpatient heterogeneity observed
- A total of 11 patients treated to date at doses up to 7.4 GBq
  - Grade 4 lymphopenia related to the study drug was considered a DLT in 1 of 6 patients in the 5.55 GBq cohort
  - No SAEs, treatment discontinuations, or deaths related to the study drug were observed
  - Confirmed partial response in 1 patient who completed 6 doses of 3.7 GBq ^{177}Lu-FAP-2286
  - Stable disease in 1 patient in the 5.55 GBq cohort who was heavily pretreated
- ^{177}Lu-FAP-2286 demonstrated a manageable safety profile with some preliminary evidence of antitumor activity

[^{18}F]AlF-NOTA-octreotide vs. [^{68}Ga]Ga-DOTA-somatostatin analogue PET in neuroendocrine tumour patients: final results of a prospective multicentre trial

Elin Pauwels[1], Frederik Cleeren[2], Térence Tshibangu[2], Michel Koole[1], Kim Serdons[1], Lennert Boeckxstaens[1], Jeroen Dekervel[3], Timon Vandamme[4,5], Willem Lybaert[5], Bliede Van den Broeck[6], Paul M. Clement[7], Karen Geboes[8], Eric Van Cutsem[3], Sigrid Stroobants[9], Chris Verslype[3], Guy Bormans[2], Christophe M. Deroose[1]

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[^{18}F]AlF-NOTA-octreotide ([^{18}F]AlF-OC)

European Journal of Nuclear Medicine and Molecular Imaging (2020) 47:3033–3046
https://doi.org/10.1007/s00259-020-04918-4

ORIGINAL ARTICLE

[^{18}F]AlF-NOTA-octreotide PET imaging: biodistribution, dosimetry and first comparison with [^{68}Ga]Ga-DOTATATE in neuroendocrine tumour patients

Elin Pauwels[1,2] · Frederik Cleeren[3] · Térence Tshibangu[3] · Michel Koole[1,2] · Kim Serdons[1,2] · Jeroen Dekervel[4] · Eric Van Cutsem[4] · Chris Verslype[4] · Koen Van Laere[1,2] · Guy Bormans[3] · Christophe M. Deroose[1,2]

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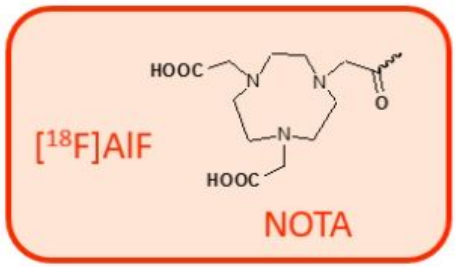
n = 6



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ORIGINAL ARTICLE

Clinical Application of ^{18}F-AlF-NOTA-Octreotide PET/CT in Combination With ^{18}F-FDG PET/CT for Imaging Neuroendocrine Neoplasms

Tingting Long, MD, PhD, Nengan Yang, BS,* Ming Zhou, MM,* Dengming Chen, MD,* Yulai Li, MD, PhD,* Jian Li, MD, PhD,* Yongxiang Tang, MD,* Zhaoqian Liu, PhD,† Zibo Li, PhD,‡ and Shuo Hu, MD, PhD*§*

(*Clin Nucl Med* 2019;44: 452–458)

No comparison with [^{68}Ga]Ga-DOTA-TATE/TOC/NOC

Prospective, multicentre trial

Aim: demonstrate non-inferiority of [^{18}F]AlF-OC compared with [^{68}Ga]Ga-DOTA-somatostatin analogue PET in NET patients

Inclusion criteria:

- Histologically confirmed NET
- < 3 month interval with routine clinical [^{68}Ga]Ga-DOTA-TATE/NOC/TOC PET
- ≥ 1 known tumour lesion outside head region

clinicaltrials.gov identifier: NCT04552847

PT1
S63678_AN032
PT
SSTR_PET_MaskedHead
S63678_AN032

2000-01-01 10:00:00
2000-01-01
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75 kg

31052
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S63678
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MIM Software
Derived, Primary, Axial
Axial
HFS

XX
200 MBq
09:00:00
1h 0m 0s
decy,attn,scat,dtim,ransng,dcal,slsens,norm

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0 SUVbw
1
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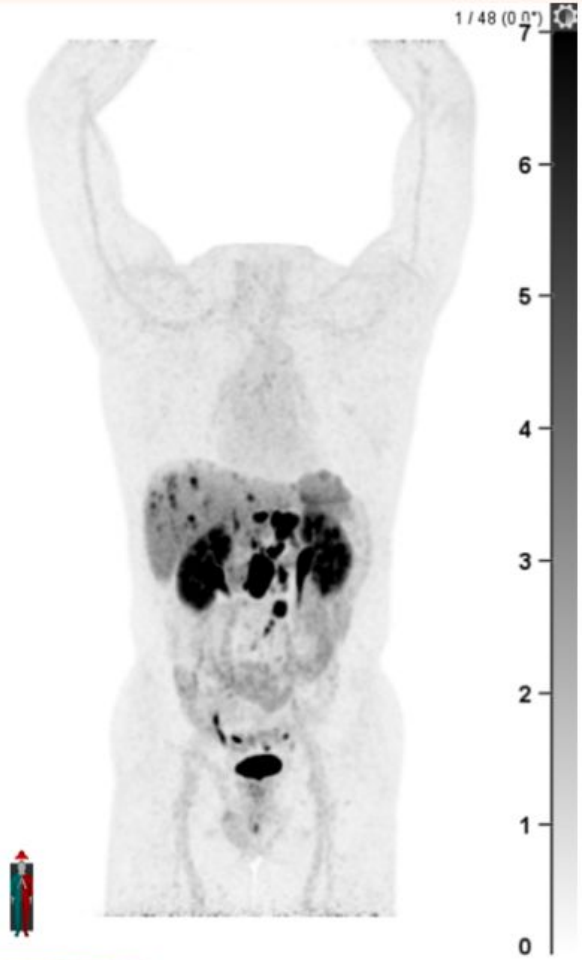
1,3672, 1,3672, -538,9 (dcm)



Study scan:

Materials and methods

- 4 MBq/kg [^{18}F]AlF-OC
- Imaging @ 2 hours p.i.
  - TOF (GE MI4): 3 min/bed
  - Non-TOF (Siemens TP): 4 min/bed

Clinical routine scan:

- According to EANM guidelines(*)
- [^{68}Ga]Ga-DOTA-TATE or –NOC:
  - IA [^{68}Ga]-DOTATATE: 139 ± 27 MBq
  - IA [^{68}Ga]-DOTANOC: 114 ± 20 MBq
- 2.5 min/bed

Randomised, blinded consensus read

Differential Detection Ratio:

$$DDR = DR_{F18} - DR_{Ga68}$$

(*) Bozkurt et al. Eur J Nucl Med Mol Imaging. 2017;44:1588-601. PMID: 28547177

Results

n = 75

Characteristic		No. (%) of patients or Median (range)
Age (years)		65 (37–84)
Sex	M	46 (61.3%)
	F	29 (38.7%)
Primary tumour	Intestine	45 (60.0%)
	Pancreas	18 (24.0%)
	Lung	7 (9.3%)
	Unknown primary	4 (5.3%)
	Paraganglioma	1 (1.3%)
Tumour grade	G1	35 (46.7%)
	G1/G2 (i.e. Ki-67<5%)	2 (2.7%)
	G2	34 (45.3%)
	G3	2 (2.7%)
	NA	2 (2.7%)
Routine tracer	[^{68}Ga]Ga-DOTA-TATE	56 (74.7%)
	[^{68}Ga]Ga-DOTA-NOC	19 (25.3%)
Interval between [^{18}F]AlF-OC and [^{68}Ga]Ga-DOTA-TATE/NOC (days)		7 (-30 – 32)

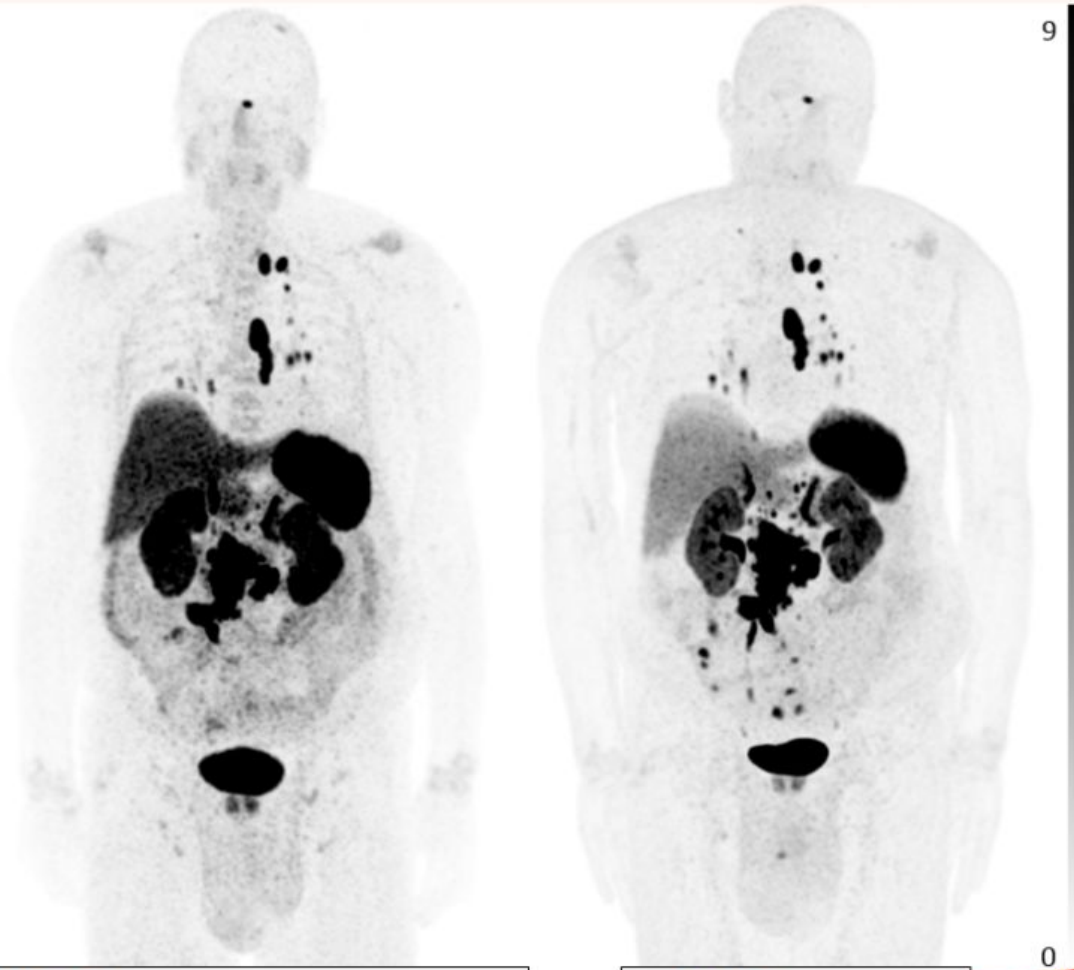
Primary endpoint

The primary objective will be met if the lower margin of the 95% confidence interval (95% CI) for the mean DDR is higher than -15%.

	[^{68}Ga]Ga-DOTA-TATE/NOC	[^{18}F]AlF-OC	
Number of lesions	3454	4278	N_{union}= 4709
mean DR	75.3%	91.1%	

mean DDR = 15.8% (95% CI: 9.6% – 22.0%)

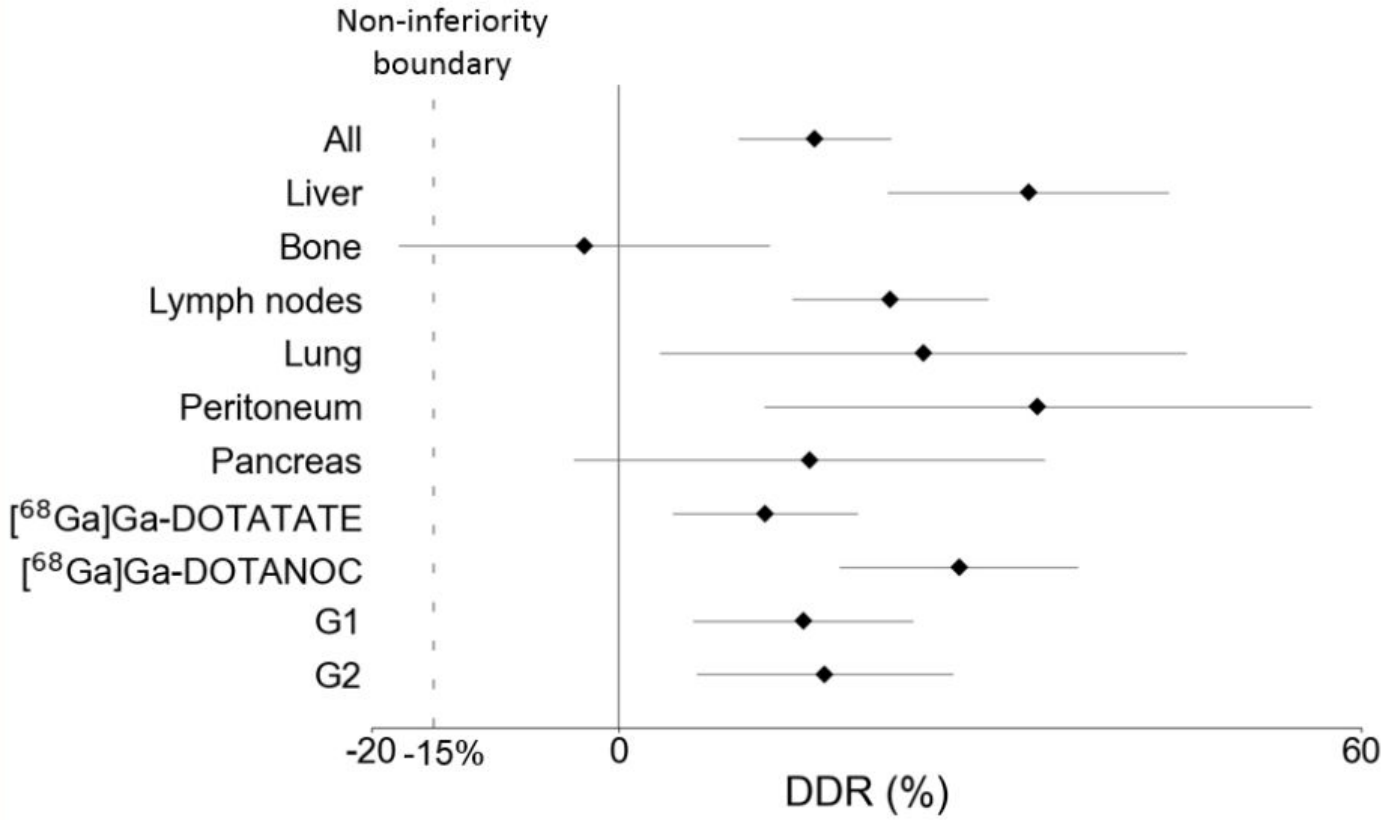
Results



[^{68}Ga]Ga-DOTATATE(/-NOC)

[^{18}F]AlF-OC

Results



	DDR (%)	95% CI
All	15.8	(9.6 – 22.0)
Liver	33.1	(21.7 – 44.4)
Bone	-2.8	(-17.8 – 12.2)
Lymph nodes	21.9	(14.0 – 29.8)
Lung	24.6	(3.3 – 45.8)
Peritoneum	33.8	(11.7 – 55.9)
Pancreas	15.4	(-3.7 – 34.4)
[68Ga]Ga-DOTATATE	11.8	(4.3 – 19.3)
[68Ga]Ga-DOTANOC	27.5	(17.8 – 37.1)
G1	14.9	(6.0 – 23.8)
G2	16.6	(6.3 – 27.0)

[^{18}F]AlF-OC vs. [^{68}Ga]Ga-DOTA-TATE/NOC

	[^{68}Ga]Ga-DOTA-TATE/NOC	[^{18}F]AlF-NOTA-octreotide	p
Number of lesions	3454	4278	**$< 10^{-4}$**
mean DR	75.3 %	91.1 %	**$< 10^{-5}$**
mean SUV_{max} (*)	22.4 ± 15.6	20.0 ± 14.5	0.067
mean TBR (*)	25.1 ± 32.7	31.7 ± 36.5	**0.0013**

(*) mean values on the patient level for **quantifiable** lesions detected on both scans (N = 3034), incl. head region

Conclusion

[^{18}F]AlF-OC vs. [^{68}Ga]Ga-DOTA-TATE/NOC PET:

mean DDR = 15.8% (95% CI: 9.6% – 22.0%)

> -15% ✓

[^{18}F]AlF-NOTA-octreotide:

- non-inferior, even superior compared with [^{68}Ga]Ga-DOTATATE/NOC
- validated alternative for clinical practice SSTR PET

Congrats Elin!

Marie Skłodowska-Curie Award 2022

Dziękuję za uwagę