

EAU-EANM consensus statements on the role of PSMA PET/CT in patients with prostate cancer and in respect to radioligand therapy ([¹⁷⁷Lu]Lu-PSMA)

Stefano Fanti MD^a, Alberto Briganti MD^b, Louise Emmett MD^c, Karim Fizazi MD^d, Silke Gillissen MD^e, Karolien Goffin MD^f, Boris A Hadaschik MD^g, Ken Herrmann MD^h, Jolanta Kunikowska MD PhDⁱ, Tobias Maurer MD^j, Steven MacLennan PhD^k, Nicolas Mottet MD PhD^l, Declan G Murphy MD^m, Daniela E Oprea-Lager MD PhDⁿ, Joe M O'Sullivan MD^o, Wim JG Oyen MD^{p,q,r}, Olivier Rouvière MD PhD^{s,t}, Oliver Sartor MD^u, Arnulf Stenzl MD^v, Hendrik Van Poppel MD^w, Jochen Walz MD^x, Wim Witjes MD^y and Anders Bjartell MD^{z,aa,*}

^aNuclear Medicine Division, IRCCS AOS Bologna; ^{a2} University of Bologna, Italy; ^bDepartment of Urology, Division of Experimental Oncology, Urological Research Institute, IRCCS San Raffaele Scientific Institute, Milan, Italy; ^cDepartment of Theranostics and Nuclear Medicine, St Vincent's Hospital, Sydney, Australia; ^dDepartment of Cancer Medicine, Institut Gustave Roussy, University of Paris Saclay, Villejuif, France; ^eInstitute of Oncology of Southern Switzerland, EOC, Bellinzona and Università della Svizzera Italiana, Lugano, Switzerland; ^fDepartment of Nuclear Medicine, University Hospital Leuven, KU Leuven, Leuven, Belgium; ^gDepartment of Urology, University of Duisburg-Essen and German Cancer Consortium (DKTK)-University Hospital Essen, Essen, Germany; ^hDepartment of Nuclear Medicine, University of Duisburg-Essen and German Cancer Consortium (DKTK)-University Hospital Essen, Essen, Germany; ⁱDepartment of Nuclear Medicine, Medical University of Warsaw, Warsaw, Poland; ^jDepartment of Urology and Martini-Klinik Prostate Cancer Center, Universitätsklinikum, Hamburg-Eppendorf, Germany; ^kAcademic Urology Unit, University of Aberdeen, Foresterhill Aberdeen, United Kingdom; ^lDepartment of Urology, University Hôpital Nord, Saint Etienne, France; ^mDivision of Cancer Surgery, Peter MacCallum Cancer Centre, University of Melbourne, Melbourne, Australia; ⁿDepartment of Radiology and Nuclear Medicine, Amsterdam University Medical Centers, VU University, Amsterdam, The Netherlands; ^oPatrick G Johnston Centre for Cancer Research, Queen's University Belfast, Belfast, UK; ^pHumanitas University and Humanitas Clinical and Research Center, Milan, Italy; ^qDepartment of Radiology and Nuclear Medicine, Radboud University

Medical Centre, Nijmegen, The Netherlands; ^rDepartment of Radiology and Nuclear Medicine, Rijnstate Hospital Arnhem, The Netherlands; ^sHospices Civils de Lyon, Department of Urinary and Vascular Imaging, Hospital Edouard Herriot, Lyon, France; ^tUniversity of Lyon, University Lyon 1, Faculty of Medicine Lyon East, Lyon, France; ^uTulane Cancer Center, Tulane University, School of Medicine, New Orleans, LA, USA; ^vDepartment of Urology, Eberhard Karls University Tübingen, Tübingen, Germany; ^wDepartment of Urology, Katholieke Universiteit Leuven, Leuven, Belgium; ^xDepartment of Urology, Institut Paoli-Calmettes Cancer Center, Marseille, France; ^yEAU Research Foundation, Arnhem, The Netherlands; ^zDepartment of Urology, Skåne University Hospital, Malmö, Sweden; ^{aa}Department of Translational Medicine, Medical Faculty, Lund University, Lund, Sweden.

***Corresponding author:**

Professor Anders Bjartell, Department of Urology, Skåne University Hospital, Jan Waldenströms gata 5, SE 205 02 Malmö, Sweden.

Tel: +46 40 332685

E-mail: anders.bjartell@med.lu.se

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Abstract

Background: Prostate-specific membrane antigen (PSMA) positron emission tomography (PET)/computed tomography (CT) is useful for selected clinical indications in patients with prostate cancer but it may have broader clinical utility due to the emergence of Lutetium-177-PSMA-617 ([¹⁷⁷Lu]Lu-PSMA) therapy. However, robust data regarding the impact of PSMA PET/CT on patient management/treatment is lacking and, in many areas, the role of next-generation imaging is missing.

Objective: Assess expert opinion regarding the use of PSMA-based imaging and therapy to develop interim guidance.

Design, setting and participants: Twenty-one PCa expert panel members from various disciplines received thematic topics and relevant literature. A questionnaire to assess proposed guidance statements regarding PSMA PET/CT and [¹⁷⁷Lu]Lu-PSMA therapy was developed for completion remotely in a first e-Delphi round. A subsequent panel discussion was conducted during a one-day meeting, which incorporated a second Delphi round.

Outcome measurements and statistical analysis: Panelists voted anonymously on statements using a nine-point Likert scale from strongly disagree (1) to strongly agree (9). Median scores were calculated, with consensus defined using methods proposed by the research and development (RAND) corporation.

Results and limitations: Statements developed covered the following topics: PSMA PET/CT utility, clinical use and choice of tracer; patient selection and management of patients receiving [¹⁷⁷Lu]Lu-PSMA for metastatic PCa. Consensus was reached for 33/36 statements. In-group bias is a potential limitation as some statements were rephrased during discussions at the one-day meeting.

Conclusions: Adoption of PSMA PET/CT as an imaging tool guiding [¹⁷⁷Lu]Lu-PSMA therapy should be supported by indications for appropriate use.

Patient Summary: A panel of experts in PCa reached a consensus for the majority of proposed statements regarding the role of PSMA-based imaging and therapy, particularly the use of

PSMA PET/CT in patients suitable for [¹⁷⁷Lu]Lu-PSMA therapy and the need to perform PSMA PET/CT before considering patients as candidates for [¹⁷⁷Lu]Lu-PSMA therapy.

Introduction

Prostate-specific membrane antigen (PSMA) positron emission tomography (PET)/computed tomography (CT) (e.g. [⁶⁸Ga]Ga-PSMA-11, [¹⁸F]PSMA-1007, [¹⁸F]DCFPyL; herein referred to as PSMA PET/CT) is increasingly used for men with prostate cancer (PCa) in various clinical settings.

International guidelines, including those from the European Association of Urology (EAU) [1], have incorporated PSMA PET/CT as an imaging tool and provided recommendations regarding its use in the management of PCa. In patients with biochemical recurrence (BCR) or with persistently elevated prostate-specific antigen (PSA) after local therapy with curative intent, PSMA PET/CT is the recommended imaging modality both after radiotherapy and radical prostatectomy if the results will influence subsequent treatment decisions. PSMA PET/CT may also have a role in the primary staging of patients with high-risk PCa [2], although outcomes data are lacking. In addition, procedural guidelines for performing PSMA PET/CT have been endorsed by the European Association of Nuclear Medicine (EANM) [3].

Expression of the transmembrane protein, PSMA, on PCa cells makes it a suitable target for imaging as a diagnostic tool and for therapy as part of a theranostic approach. In recent years, several studies have reported promising results of using Lutetium-177–PSMA-617 ([¹⁷⁷Lu]Lu-PSMA) in patients with advanced PCa [4-6]. Procedural guidelines for radionuclide therapy with [¹⁷⁷Lu]Lu-PSMA have been published by the EANM [7], but the relationship between diagnostic PSMA PET and PSMA-based therapy needs to be further explored.

In recognition of the growing importance of PSMA-targeting radiopharmaceuticals in the diagnosis and treatment of patients with PCa, the EAU in collaboration with the EANM recruited a panel of international PCa experts from different specialties to assess the available evidence and their collective expert opinion regarding PSMA-based imaging and therapy in order to develop interim guidance for PSMA PET/CT imaging in patients suitable for [¹⁷⁷Lu]Lu-PSMA therapy until better evidence emerges [8].

Methods

In August 2021, the EAU and EANM formed a collaboration to produce consensus statements intended as interim guidance for PSMA PET/CT imaging in patients suitable for [¹⁷⁷Lu]Lu-PSMA therapy. A steering group (S. Fanti and A. Bjartell) identified and invited a panel of experts from different disciplines (urology, medical oncology, nuclear medicine, radiology and/or radiation oncology) based on their knowledge in the management of PCa and expertise on this specific topic. A PubMed literature search was performed (by S. Fanti) using the terms 'PET imaging', 'PET/CT imaging' and 'Lu-PSMA', with results limited to literature published in English language between 2016 and 2021. Based on findings from this literature search, the steering group developed a series of proposed guidance statements regarding PSMA-based imaging and therapy.

A modified Delphi process was used for all panel members to assess the proposed statements. The first round was an e-Delphi, completed electronically two weeks prior to the second Delphi round, which was scored in real-time during a one-day consensus meeting held in January 2022. This meeting was moderated by a specialist in consensus methodology (S. MacLennan).

One month before the start of the Delphi, each panel member received the following thematic topics along with relevant literature: 1. Appropriate indications for PSMA PET/CT; 2. The role of PSMA imaging with respect to [¹⁷⁷Lu]Lu-PSMA-based therapy; 3. The best tracer for performing PSMA PET/CT; 4. Methodology for diagnostic and therapeutic PSMA use; 5. Patient selection for [¹⁷⁷Lu]Lu-PSMA therapy; 6. PET imaging in patients with PCa who are candidates for [¹⁷⁷Lu]Lu-PSMA therapy; 7. PET imaging in patients with PCa who are treated with [¹⁷⁷Lu]Lu-PSMA. They were asked if they wished to include any statements in addition to those proposed by the steering group. Each statement was phrased so that panel members could score their level of agreement with it, except for one descriptive statement (no. 19 in Table 1) which was not considered further for consensus purposes.

The round one e-Delphi was managed using RedCap (Research Electronic Data Capture – a web based software platform) [9]. Panelists voted on a nine-point Likert scale, ranging from strongly disagree (1) to strongly agree (9) (1-3 disagree; 4-6 uncertain; 7-9 agree). The panelists were

then sent the results of the e-Delphi with a reminder of their own scores as well as the other panelists' anonymized scores.

During the one-day meeting, the results of the e-Delphi vote on each statement were conveyed to participants and the thematic topics were presented and discussed. The panelists were then asked to confirm the relevance of the statements and their wording. Thereafter, a second Delphi vote was conducted only for statements where a consensus was not reached after the first Delphi vote and for those where rewording could result in a different score.

The statistical analysis of the Delphi voting focused on the level of agreement (median score) with each statement and whether a consensus was achieved (dispersion of scores around the median) based on the methods proposed by the research and development project (RAND)/University of California, Los Angeles (UCLA) Appropriateness Method, which can be used in panels of any size [9]. For each statement, the median score and the 30th and 70th percentiles (which constitute the inter-percentile range [IPR]) were calculated. The median score was used to determine the level of agreement: a median of 1-3 indicated that the panel disagreed with the statement, a median of 4-6 indicated that the panel were uncertain, and a median of 7-9 indicated that the panel agreed with the statement. The IPR was used to calculate the inter-percentile range adjusted for symmetry (IPRAS), which is calculated using the formula: $IPRAS = 2.35 + (\text{asymmetry index [AI]} * 1.5)$, where the AI is defined as the absolute difference between the central point of the IPR and 5 (i.e. the central point on the 1-9 scale). If the IPR was less than the IPRAS, this indicated that there was no extreme dispersion of scores (i.e. there was 'consensus').

Results

There were 21 panel members, all of whom participated in both Delphi rounds. In round one, there was consensus for 80% (28/35) of the statements and this increased to 92% (33/36) after round two. One statement was added during round two (see Table 1, between statements 20 and 21). Fourteen statements were rephrased to improve clarity and precision during the

discussion prior to round two scoring. Despite rephrasing, consensus was not reached for three statements (see Table 1, statements 8, 10 and 35).

Statements included in the questionnaire, grouped into thematic topics, along with the corresponding median scores and consensus results are reported in Table 1. Briefly, the statements covered appropriate indications for PSMA PET/CT (statements 1-5; consensus reached for 5/5 statements), the role of PSMA imaging with respect to [¹⁷⁷Lu]Lu-PSMA-based therapy (statements 6-7; consensus reached for 2/2 statements), the best tracer for performing PSMA PET/CT (statements 8-19; consensus reached for 9/11 statements [no voting performed for statement 19]), the methodology for diagnostic and therapeutic PSMA use (statements 20-22; consensus reached for 4/4 statements), patient selection for [¹⁷⁷Lu]Lu-PSMA therapy (statements 23-27; consensus reached for 5/5 statements), PET imaging in patients with PCa who are candidates for [¹⁷⁷Lu]Lu-PSMA therapy (statements 28-31; consensus reached for 4/4 statements) and PET imaging in patients with PCa who are treated with [¹⁷⁷Lu]Lu-PSMA (statements 32-36; consensus reached for 4/5 statements).

Discussion

Appropriate indications for PSMA PET/CT (statements 1-5)

Evidence regarding the value of PSMA PET/CT in terms of long-term outcomes and effects on clinical decision-making is not robust. During the panel discussion regarding the use of PSMA PET/CT, it was confirmed that such a novel approach should only be used if a change in clinical management is expected from the results, as already emphasized in EAU guidelines [1]. In most statements, it was preferred to use the words “in the majority of patients” rather than “every” or “any” simply because it is very unlikely that any statement could apply to all patients affected by PCa. This was the reason for many rephrased statements (as shown in Table 1).

Significant concerns were raised regarding the management of patients with a positive PSMA PET/CT and negative conventional imaging results, especially at initial staging, as it remains unclear if using the results of a more sensitive imaging tool to modify treatment has a

demonstrable impact on meaningful outcomes, including survival. ESMO guidelines suggest that patients with localized PCa based on conventional imaging should not be denied radical local treatment solely because metastatic lesions are identified using novel imaging techniques [10]. Nonetheless, there was clear agreement for the use of PSMA PET/CT in staging all high-risk patients and selected patients with unfavourable intermediate-risk disease. As already stated in the EAU guidelines, the panel strongly endorsed the use of PSMA PET/CT in patients with BCR.

Our results showed a consensus regarding the uncertainty of using PSMA PET/CT in patients with non-metastatic castration-resistant PCa (nmCRPC), which may be due to several factors, including patient heterogeneity, lack of long-term data regarding the benefit of metastasis-directed therapy in CRPC (as a result of detecting distant lesions using PSMA PET/CT) and a lack of data regarding the appropriate sequencing of treatment.

Finally, there was a consensus against the systematic use of PSMA PET/CT to evaluate disease progression in patients with confirmed metastatic CRPC (mCRPC) based on a lack of data, possible lack of cost-effectiveness and its limited availability in some countries.

The role of PSMA imaging with respect to [¹⁷⁷Lu]Lu-PSMA therapy (statements 6-7)

There was consensus regarding the need for PSMA PET/CT before considering patients as candidates for [¹⁷⁷Lu]Lu-PSMA therapy (Table 1, statements 6 and 28-31) [11]. However, PSMA imaging is not perfect for selecting patients to be treated with [¹⁷⁷Lu]Lu-PSMA since PSMA may be expressed but not detected; access to PSMA PET/CT may also be limited in some countries worldwide. Despite this, the consensus in favour of its use was strong.

Regarding PET/CT imaging (Table 1, statement 6), although PET tracers are used almost universally for imaging, the panel members noted that in exceptional circumstance, i.e. when logistical issues may prevent the use of PET/CT, imaging with Technetium-99m-labelled PSMA could be considered.

It was agreed that PSMA-based imaging should be performed to evaluate response to [¹⁷⁷Lu]Lu-PSMA-based therapy. The use of Lutetium-177 post-therapy imaging with Single Photon Emission Computed Tomography (SPECT)/CT was also suggested as an adjunct or potential alternative, which would permit dosimetry calculations [12].

The best tracer for PSMA PET/CT (statements 8-19)

The choice of PSMA tracer to be used in PET imaging is dependent on various factors, including diagnostic performance, logistics, regulatory approval, availability and cost. Therefore, ranking tracers was not possible; rather, the goal was to simply provide guidance regarding when tracers might be beneficial for clinical use. Furthermore, the list of tracers was not exhaustive – only those with relevant published data were included in the Delphi voting.

Our results showed a clear preference for the use of gallium-68 and Fluorine-18-labelled radiotracers, particularly [⁶⁸Ga]Ga-PSMA-11 and [¹⁸F]DCFPyL; however, for several statements (nos. 13, 14, 15, 17 and 18), a relevant number of panel members (n=5, 6, 4, 6 and 5 for statements 13, 14, 15, 17 and 18, respectively) noted that they were unable to score due to the very limited data on these radiopharmaceuticals. It is worth noting that the careful choice of the radiopharmaceutical and the aforementioned preferences were significant when considering a tracer for diagnostic purposes in potentially curative scenarios whereas when imaging is undertaken to select candidates for [¹⁷⁷Lu]Lu-PSMA therapy, there was agreement of equivalence between tracers.

Methodology to use for diagnostic PSMA imaging (statements 20-22)

As expected, there was strong agreement regarding the need to follow procedural guidelines for performing and reporting PSMA PET/CT.

PET/magnetic resonance imaging (MRI) has a much lower availability worldwide compared with PET/CT mainly due to costs and other limitations. However, both imaging methods were considered as equivalent [13], despite some acknowledged differences, e.g. for the evaluation of the lungs and liver and for local staging [14].

After the second Delphi round, there was agreement regarding the need for performing a fully diagnostic CT with i.v. contrast as part of the PET/CT examination, if not performed previously. Unsurprisingly, this statement was delicate and required careful articulation since it is influenced by multiple factors, including regulatory issues (in many countries, two different specialists are required to co-sign the imaging examination report), patient workflow (in many cases, a diagnostic CT would have been performed immediately prior to the referral for

PET/CT), reimbursement issues and other factors. Nevertheless, the panel reached a clear consensus on the usefulness of diagnostic contrast-enhanced PET/CT over low-dose non-enhanced PET/CT, if not performed previously.

Selection of patients for [¹⁷⁷Lu]Lu-PSMA therapy (statements 23-27)

All panel members emphasized that the topic of patient selection must be considered with particular care since it is related to approval registrations, which are changing rapidly and are different around the world. The theranostics concept was strongly endorsed in statement 26.

There was a strong consensus that, outside of clinical trials, only patients with mCRPC can be considered for [¹⁷⁷Lu]Lu-PSMA therapy since this is the only setting for which [¹⁷⁷Lu]Lu-PSMA therapy is supported by level I evidence post initial hormonal therapy and post-taxane use. Therefore, it was agreed that patients with metastatic hormone-sensitive PCa (mHSPC), either with low-volume or high-volume metastases, should not be considered for [¹⁷⁷Lu]Lu-PSMA therapy outside of a clinical trial.

The VISION trial reported a lower rate of success in patients with liver lesions [6]; however, there was agreement that patients with PCa and such parenchymal lesions who are suitable for [¹⁷⁷Lu]Lu-PSMA therapy should not be excluded from treatment since good results have been observed.

PET imaging in patients with PCa who are candidates for [¹⁷⁷Lu]Lu-PSMA therapy (statements 28-31)

There was a clear consensus that PSMA PET/CT must be performed in every patient who is a candidate for [¹⁷⁷Lu]Lu-PSMA therapy, whereas PET/CT with [¹⁸F]F-Choline [15] or [¹⁸F]F-Fluciclovine have no role for this indication.

There was also consensus regarding the uncertain role of [¹⁸F]FDG PET/CT, which has been suggested in some trials (mainly those carried out in Australia [5]) but not used in others (including the VISION trial where CT scan with media contrast was used in addition to PSMA PET/CT [6]). While it may be desirable to develop a strategy to better select patients who will benefit from [¹⁷⁷Lu]Lu-PSMA therapy, the added value of [¹⁸F]FDG imaging, which is associated

with increased costs, radiation exposure and discomfort to the patient, is unclear. There is also a possibility that any such strategy could inadvertently exclude some patients who may derive clinical benefit from [¹⁷⁷Lu]Lu-PSMA therapy.

PET imaging in patients with PCa treated with [¹⁷⁷Lu]Lu-PSMA (statements 32-36)

The panel members agreed on the usefulness of dosimetric evaluation, eventually done by means of SPECT/CT, although not strictly mandatory for patient selection before and during therapy. There was a consensus against performing PSMA PET/CT after every course of therapy and also against performing [¹⁸F]FDG PET/CT after completion of treatment. There was also consensus regarding the uncertain role of performing additional PSMA PET/CT at the end of planned therapy. It is worth noting that there is a minor discrepancy between statements 33 and 7 regarding the use of PSMA PET/CT imaging to evaluate response to [¹⁷⁷Lu]Lu-PSMA therapy. Unlike statement 33, which stipulates that PSMA PET/CT should be performed only at the end of [¹⁷⁷Lu]Lu-PSMA therapy, statement 7 does not include a specific timing for imaging to evaluate response, and this is likely the reason for consensus being achieved for this statement (versus statement 33 which scored as uncertain), as it is currently unclear when the response evaluation scan should be performed. Furthermore, a post-treatment scan could have different scopes/objectives: in cases where a PSMA PET/CT is performed when considering further PSMA therapy, this would be recommended (as per statement 28).

Procedure to use for [¹⁷⁷Lu]Lu-PSMA therapy

As with PSMA PET imaging, there was a strong agreement regarding the need to follow procedural guidelines for performing [¹⁷⁷Lu]Lu-PSMA therapy.

Limitations

A full systematic review of the evidence base was not performed prior to the consensus process which could mean that some important literature was missed. However, given that this clinical area is relatively novel, with only a limited number of publications reported to-date, and that the panel members are experts in this area, it is unlikely that any clinically relevant literature was missed.

A criticism of the RAND consensus methodology is that as the 30th and 70th percentiles are used to calculate consensus, outliers (i.e. divergent views) may be dismissed. However, panel members were shown the anonymized scores of all other panel members, and they all had the opportunity to voice their opinion during the one-day meeting. Thus, in cases where divergent views existed, there was opportunity for them to be considered.

Conclusions

The introduction of radiolabelled PSMA ligands has the potential to have an important impact on the management of patients with PCa, and the volume of data related to PSMA-based imaging and therapy is growing rapidly. An increasing number of trials are being completed and reported, making the PSMA theranostics landscape very active.

For PSMA-based imaging, the major challenge is to demonstrate the real impact of this tool on major clinical outcomes such as overall and progression-free survival, and its potential use to successfully select patients for life-prolonging systemic or local therapies. For PSMA therapy, major efforts are directed towards optimal patient selection and sequencing, and to extend the current indication to earlier stages of PCa.

The EAU and EANM endorse and promote high quality standards in performing diagnostic and therapeutic procedures. In the absence of clinical trials clearly answering open research questions, high-level consensus events (including the Advanced Prostate Cancer Consensus Conference) are very important to provide expert opinion. With respect to the questions raised in this consensus meeting, our results provide indications and suggestions regarding the appropriate use of PSMA imaging and therapy in various clinical situations.

Author contributions:

Stefano Fanti and Anders Bjartell had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Anders Bjartell, Stefano Fanti and Steven MacLennan.

Acquisition of data: Steven MacLennan.

Analysis and interpretation of data: All authors.

Drafting of the manuscript: Anders Bjartell, Stefano Fanti and Steven MacLennan.

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Table 1. Proposed statements and Delphi voting results regarding the role of PSMA-based imaging and therapy in PCa

Number	Round one (original phrasing)	Round two (rephrased)	Round one Median*	Round one consensus achieved	Round two Median*	Round two consensus achieved
1	PSMA PET/CT should be performed in any high-risk PCa patient at staging		8	Yes		
2	PSMA PET/CT should be performed in some intermediate-risk PCa patients at staging	PSMA PET/CT should be considered in unfavourable intermediate-risk PCa patients at staging	7	Yes	8	Yes
3	PSMA PET/CT should be performed in any BCR patients	PSMA PET/CT should be performed in the majority of BCR patients	9	Yes	9	Yes
4	PSMA PET/CT should be performed in nmCRPC patients	PSMA PET/CT should be performed in the majority of nmCRPC patients	5.5	Yes	5	Yes
5	PSMA PET/CT should be performed in any mCRPC patient to evaluate disease progression	PSMA PET/CT should be performed in the majority of mCRPC patients to evaluate disease progression	3	No	3	Yes
6	PSMA PET/CT should be performed in any candidate for [¹⁷⁷ Lu]Lu-PSMA		9	Yes		
7	PSMA-PET/CT should be performed in evaluation of response to [¹⁷⁷ Lu]Lu-PSMA		7	Yes		

8	All PSMA tracers are equivalent for diagnostic purposes	All PSMA PET tracers are equivalent for diagnostic purposes (staging/BCR)	4	No	4	No
9	PSMA tracers labelled with F-18 and Ga-68 are preferable for PET		8	Yes		
10	Data from trials with PSMA tracers can be extrapolated to any other tracers	Data from trials with PSMA PET tracers can be extrapolated to any other PSMA PET tracers for diagnostic purposes	3	No	3.5	No
11	All PSMA tracers are equivalent if PET is performed for selecting candidates for [¹⁷⁷ Lu]Lu-PSMA		8	Yes		
12	The best PSMA PET tracer is [⁶⁸ Ga]Ga-PSMA-11		8	Yes		
13	The best PSMA PET tracer is [⁶⁸ Ga]Ga-PSMA I&T		5	Yes		
14	The best PSMA PET tracer is [⁶⁸ Ga]Ga-PSMA R2		3.5	Yes		
15	The best PSMA PET tracer is [¹⁸ F]DCFPyL		7	Yes		
16	The best PSMA PET tracer is [¹⁸ F]PSMA-1007		4.5	Yes		
17	The best PSMA PET tracer is [¹⁸ F]rh PSMA 7		5	Yes		

18	The best PSMA PET tracer is [⁶⁴ Cu]Cu-PSMA I&T		3	Yes		
19	If you feel another PSMA PET tracer not already listed above is best, please type your answer in here		NA	NA		
20	PSMA PET/CT should be performed and reported according to procedural guidelines		9	Yes		
New in round two		[¹⁷⁷ Lu]Lu-PSMA therapy should be performed according to guidelines			9	Yes
21	PSMA PET/MRI is at least equivalent to PET/CT and thus is always acceptable	PSMA PET/MRI is equivalent to PET/CT and thus is acceptable in the majority of cases	8	Yes	8	Yes
22	Fully diagnostic CT with contrast media is mandatory as part of PSMA PET/CT	Fully diagnostic CT with contrast media is recommended as part of PSMA PET/CT if not performed previously	4.5	No	8	Yes
23	Only mCRPC patients can be considered for [¹⁷⁷ Lu]Lu-PSMA	Only mCRPC patients can be considered for [¹⁷⁷ Lu]Lu-PSMA outside of clinical trials	7	No	8.5	Yes
24	mHSPC with low-volume metastases can be considered for [¹⁷⁷ Lu]Lu-PSMA	mHSPC with low-volume metastases can be considered for [¹⁷⁷ Lu]Lu-PSMA outside of clinical trials	3	No	2	Yes

25	mHSPC with high-volume metastases can be considered for [¹⁷⁷ Lu]Lu-PSMA	mHSPC with high-volume metastases can be considered for [¹⁷⁷ Lu]Lu-PSMA outside of clinical trials	3.5	No	2	Yes
26	[¹⁷⁷ Lu]Lu-PSMA outside of its approved indication should only be performed within a clinical trial		9	Yes		
27	Patients with parenchymal metastases (liver, lung) are not suitable for [¹⁷⁷ Lu]Lu-PSMA	Patients with parenchymal metastases (liver, lung) are suitable for [¹⁷⁷ Lu]Lu-PSMA	3	Yes	8	Yes
28	PSMA PET/CT should be performed in any candidate for [¹⁷⁷ Lu]Lu-PSMA		9	Yes		
29	[¹⁸ F]FDG PET/CT should be performed in any candidate for [¹⁷⁷ Lu]Lu-PSMA	[¹⁸ F]FDG PET/CT should be performed in any candidate for [¹⁷⁷ Lu]Lu-PSMA	4.5	Yes	4	Yes
30	Choline/Fluciclovine PET-CT have no role to select candidates for [¹⁷⁷ Lu]Lu-PSMA		8.5	Yes		
31	No PET/CT scan is strictly mandatory to select patients to be treated with [¹⁷⁷ Lu]Lu-PSMA	Demonstration of PSMA expression by imaging is mandatory to be treated with [¹⁷⁷ Lu]Lu-PSMA	1	Yes	9	Yes
32	PSMA PET/CT should be performed after every cycle of [¹⁷⁷ Lu]Lu-PSMA		1.5	Yes		
33	PSMA PET/CT should be performed only at the end of [¹⁷⁷ Lu]Lu-PSMA therapy		6	Yes		

34	FDG PET/CT should be performed at the end of [¹⁷⁷ Lu]Lu-PSMA therapy		2	Yes		
35	PET/CT with any tracer should not be performed to monitor response to [¹⁷⁷ Lu]Lu-PSMA therapy	PSMA PET/CT is necessary to monitor patients during follow-up after [¹⁷⁷ Lu]Lu-PSMA	5	Yes	5	No
36	[¹⁸ F]FDG PET/CT should be performed after every cycle of [¹⁷⁷ Lu]Lu-PSMA therapy		1	Yes		

*A median score of 1-3 = disagreement, 4-6 = uncertainty, 7-9 = agreement

Text in red indicates changes to original proposed statements.

CRPC, castration-resistant prostate cancer; CT, computed tomography; Cu, copper; F, fluorine; FDG, fluorodeoxyglucose; Ga, gallium; HSPC, hormone-sensitive prostate cancer; Lu, lutetium; m, metastatic; PCa, prostate cancer; PET, positron emission tomography; PSMA, prostate-specific membrane antigen.

Take Home Message

There was consensus among the panelists that PSMA PET/CT is useful for selected clinical indications in patients with prostate cancer and has a fundamental role for those who are candidates for [¹⁷⁷Lu]Lu-PSMA therapy.