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EDITORIAL

The EANM Focus 5 consensus on 'molecular imaging and theranostics in prostate cancer': the future begins today

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After three years of COVID-pandemic, and in that setting an once postponed and eventually cancelled European Association of Nuclear medicine (EANM) Focus 4 on molecular imaging and therapy in haematological tumours [1], the Nuclear Medicine community felt the longing for a live consensus meeting, with multidisciplinary stakeholders. As the clinical evidence was pointing to Theranostics in prostate cancer to be the most dynamic and rapidly evolving field in Oncology in the past 5 years, the choice for a new focus topic was obvious.

Under the motto 'The future begins today', the fifth edition of the EANM Focus meeting on 'molecular imaging and theranostics in prostate cancer' was scheduled in February 2023 in the beautiful and historic city of Seville, in Spain. The aim was to critically review developments in molecular hybrid imaging and especially systemic radioligand therapy, in order to reach a multidisciplinary consensus on the current state-of-the art in prostate cancer diagnosis and treatment in Nuclear Medicine. The meeting was fully booked as it was attended by 300 participants from 34 different countries, from across four continents (i.e., Europe, America, Africa and Australia).

Initiated in 2018, the focus meetings have become a well-known and highly appreciated concept, being entirely dependent on live interaction with peers from other medical specialties. Similarly to the previous editions [1–4], a multidisciplinary group, at this occasion consisting of 28 experts and key opinion leaders from across the world, was invited to offer an update on the latest developments and ways forward in the field of prostate cancer imaging and therapy management. This multidisciplinary faculty, including renowned international presenters, was varied and consisted of urologists, medical oncologists, radiation oncologists, radiologists, nuclear medicine physicians, as well clinical and fundamental scientists.

In the two-years before the consensus conference, preparations included a systematic literature review, which informed a two-round Delphi process. The results were discussed and ratified in the EANM focus 5 consensus meeting [5]. After two Delphi rounds, forty-eight statements were scored on a Likert agreement scale and six as ranking options. Agreement statements were analysed using the RAND appropriateness method. Ranking statements were interpreted using weighted summed scores. REDCap was used to collect data and manage all aspects of the Delphi process [6, 7].

The scientific programme addressed the entire prostate cancer patient pathway, from staging of intermediate and high-risk prostate cancer, imaging of biochemical recurrence, and advanced prostate cancer to the latest insights in therapy. During the meeting, state-of-the-art theranostic approaches in hormone-sensitive and castration resistant prostate cancer were presented by the panel experts and followed by live interactions with participants and consensus debates with the faculty members. The most intriguing questions focused on indications for prostate-specific membrane antigen (PSMA) positron emission tomography (PET) imaging and PSMA radioligand therapy, integration of advanced imaging in nomogram-based decision-making, dosimetry, and development of new theranostic applications.

There was consensus on 42/48 (87.5%) of the statements. The expert panel recommended PSMA PET to be used for staging the majority of patients with unfavourable intermediate and high risk and for restaging of suspected recurrent prostate cancer. All panellists agreed strongly in favour of replacing bone scan and abdominopelvic CT with PSMA PET/CT scans, for staging patients with high-risk prostate

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cancer. There was consensus that oligometastatic disease should be defined as up to five metastases, even using advanced imaging modalities. The group agreed that [^{177}Lu]Lu-PSMA should not be administered only after progression to cabazitaxel and that [^{223}Ra]RaCl2 remains a valid therapeutic option in bone-only metastatic castration-resistant prostate cancer. The panel agreed that current management of patients with non-metastatic castration resistant prostate cancer (by conventional imaging) is likely to be modified by advanced imaging techniques (e.g., PSMA PETCT/PET-MRI or whole-body MRI) [8, 9].

Uncertainty remained on various topics, including the need for concordant findings on both [^{18}F]FDG and PSMA PET prior to [^{177}Lu]Lu-PSMA therapy, while there was a high proportion of agreement among a panel of multidisciplinary experts on the use of molecular imaging and theranostics in prostate cancer. Although consensus statements cannot replace high-certainty evidence [10, 11], they can aid in the interpretation and dissemination of best practice from centres of excellence to the wider clinical community. While we think the future begins today, there are many questions left for tomorrow, for current and new generations of experts in imaging-oncology. The key elements for success are collaboration and continuous education, while keeping up with the progress in medicine, for the benefit of the patient.

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Declarations

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Research involving human participants and/or animals This editorial does not contain proprietary research involving neither humans nor animals.

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