European Association of Urology

Brief Correspondence

In-depth Analysis of the 2019 Advanced Prostate Cancer Consensus Conference: The Importance of Representation of Medical Specialty and Geographic Regions

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Abstract

Rapid innovations for treatment and diagnostic procedures in advanced prostate cancer have led to improved outcomes, although uncertainty remains regarding the best management approach in many clinical situations. The 2019 Advanced Prostate Cancer Consensus Conference (APCCC) addressed these areas of uncertainty with a multidisciplinary international expert panel. A total of 57 experts voted on 123 carefully prepared questions. Primary analysis for APCCC 2019 showed consensus ($\geq$75% agreement on one answer) for 33 questions. Here we investigate whether agreement with the consensus answers differed according to medical discipline and region of practice. Overall there was no compelling evidence for group differences in agreement with the consensus answers: expert subgroups differed no more than could be expected by chance due to differences between individual experts. All questions for which consensus was achieved had at least 50% agreement in each expert subgroup. Furthermore, the set of consensus questions changed only moderately if one of the subgroups was excluded from the panel. The identification of consensus questions and answers at APCCC 2019 appeared to be robust to the composition of the panel and well supported.

Patient summary: The Advanced Prostate Cancer Consensus Conference (APCCC) addresses areas of uncertainty with a multidisciplinary panel of experts. We analyzed the decisions of these panelists and grouped them by their medical discipline and their region of practice. For all questions for which consensus (agreement $\geq$75%) was found, at least 50% of each group agreed, indicating widespread support of these answer choices. This finding strengthens the consensus achieved at APCCC 2019 and provides further guidance for clinicians.

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The Advanced Prostate Cancer Consensus Conference (APCCC) is a biannual multidisciplinary conference that addresses areas of uncertainty and controversy in the rapidly evolving treatment of advanced prostate cancer.

Questions evaluated at each conference are developed through a modified Delphi process by a multidisciplinary panel of selected physicians and scientists [1,2]. In a final voting session, panelists vote individually and anonymous-

ly. Consensus is considered to be achieved if one answer receives ≥75% of the votes [1,2].

At APCCC 2019, a total of 57 clinician panelists voted on 123 questions. The voting panel consisted of 25 (44%) medical oncologists, 17 (30%) urologists, and 15 (26%) radiation therapists (clinical oncologists and radiation oncologists combined). Of these panelists, 24 (42%) practice in North America, 20 (35%) in Europe, and 13 (23%) in other regions of the world. Consensus was achieved for 33 (27%) of the questions [1].

Here we describe how the responses of the panelists differed according to their medical specialty and region of practice. This analysis was performed to evaluate how much the specific composition of the panel might have influenced voting outcomes and the set of questions for which consensus was achieved. Our analysis focused on the 33 consensus questions and included 56 further majority questions for which one answer received ≥50% of the votes for some analyses. The detailed statistical methodology is described in Supplementary Table 1.

Figure 1 shows how the degree of agreement with the consensus answer in each expert group differed from the overall degree of agreement with the consensus answer. Although deviations ranged from −22% to +20%, there was no pattern of one medical discipline or world region showing a systematically lower agreement than overall. Furthermore, the distribution of standardized deviations

across all consensus questions was compatible with the null hypothesis that the observed differences among expert subgroups arose randomly from differences among individual experts (Supplementary Fig. 1), meaning that these differences are not statistically significant.

Considering the absolute degree of agreement with the consensus answers in each expert subgroup (Fig. 2), we found agreement of at least 50% (mostly ≥60%) within each medical discipline (Fig. 2A) and world region group (Fig. 2B), indicating that the threshold of 75% overall agreement chosen for consensus resulted in selection of questions and answers supported across all disciplines among the participating experts. The omission of one medical discipline or world region from the expert panel would have caused only modest changes to the set of consensus questions (addition and removal of 2 and 6 questions, respectively; Supplementary Fig. 2). Overall, the analyses conducted indicate the robustness of the 33 questions for which consensus was achieved at APCCC 2019.

The apparent lack of differentiation in voting behavior among the clinical disciplines is interesting, considering that patients with localized prostate cancer may receive varying treatment recommendations, depending on the specialty of the treating physician [3,4]. It is of importance that the expert panelists selected for APCCC 2019 were recognized international prostate cancer experts with an established scientific record, so their decisions may well be
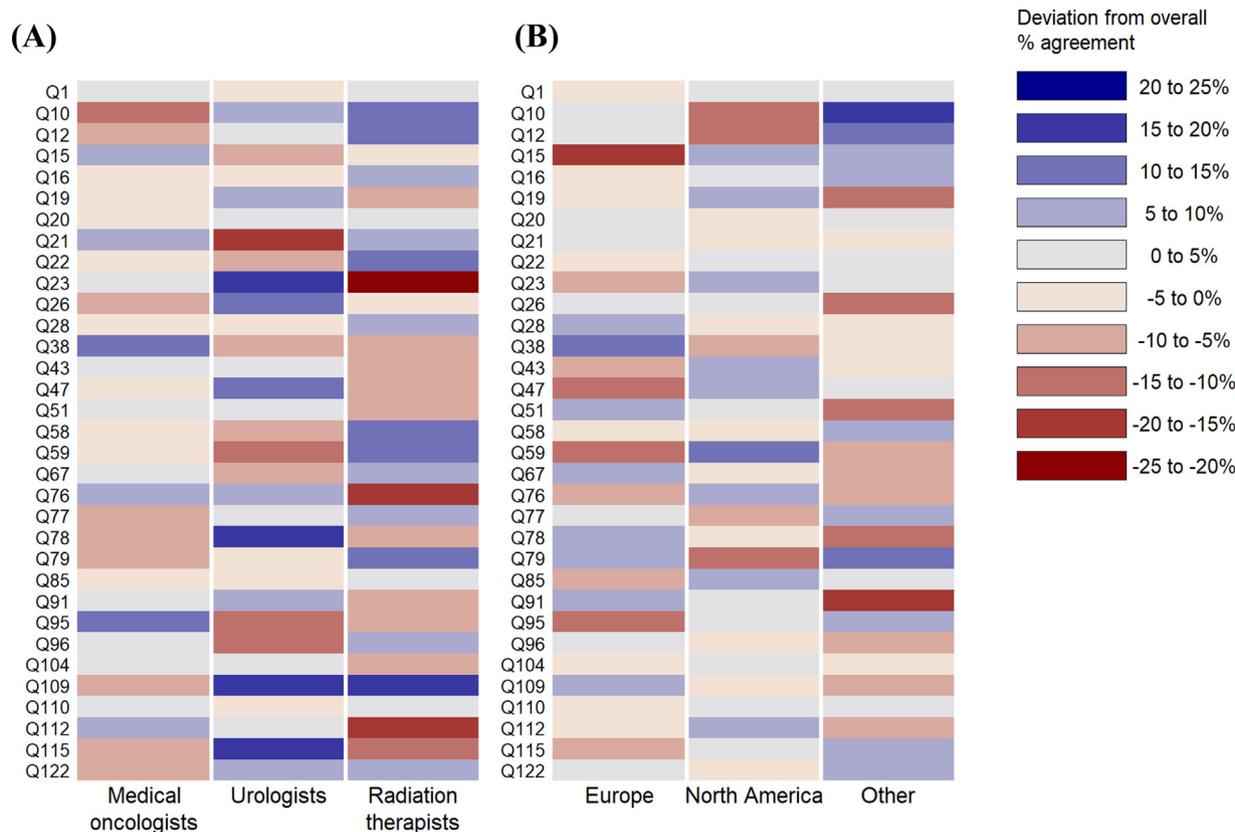

Fig. 1 – Heatmaps showing deviations from overall percentage agreement with the consensus answer for 33 questions with consensus. Heatmap illustrating how the percentage of experts (A) in each discipline and (B) in each world region selecting the consensus answer deviates from the overall percentage for each of the 33 questions (question numbers are given on the y-axis). Dark blue indicates stronger agreement with the consensus answer in a subgroup than overall, whereas dark red indicates weaker agreement in a subgroup than overall.
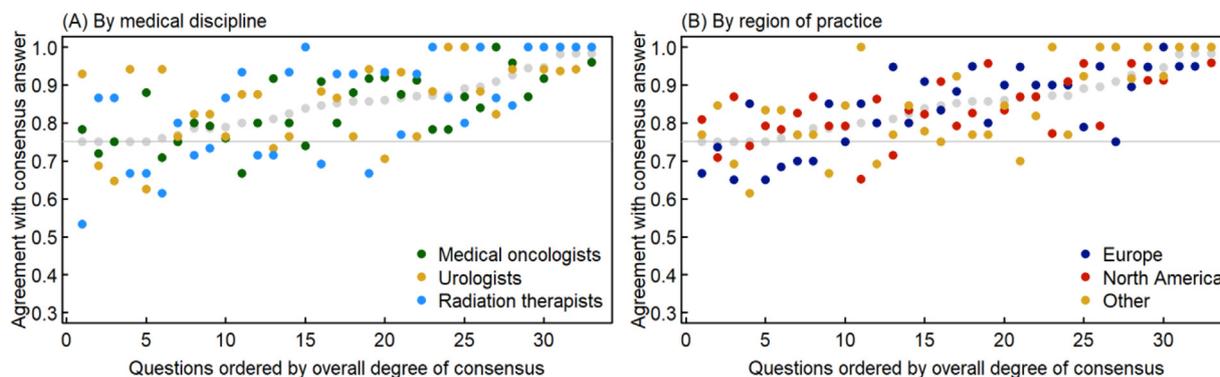
Fig. 2 – Agreement reached for the 33 consensus questions within each of the expert groups. Unlike Figure 1, questions were sorted by increasing overall agreement (given as grey dots). (A) By medical discipline. (B) By region of practice.

less discipline-specific than that of routine practitioners. The apparent lack of influence of region of practice is consistent with previous experimental comparisons [5], and reassuring for patients treated for prostate cancer across the world. It is of note, however, that the voting process was based on the hypothetical scenario that all diagnostic procedures and treatments were readily available [6], and this may not always apply in practice.

The lack of differences in voting behavior among the panelists does not necessarily indicate that the consensus achieved is correct, especially as expert opinions are not only based on data but can also be influenced by the clinical experience, prevailing sentiments, or conflicts of interest [7]. Experts are by no means infallible [8], and have been proven wrong many times in the ever-evolving field of oncology. As the questions posed reflected areas of uncertainty for which higher levels of evidence are lacking, the answers given in effect only reflect the "expert opinion", and the expert consensus may supplement existing guidelines.

Our study has some limitations that have to be addressed. This analysis focused on the questions for which a consensus or majority agreement was achieved at APCCC 2019. Thus, we did not attempt to explain the lack of consensus found for the other questions. We also focused on the single answer option with the highest agreement, not taking into consideration how similar or different the other answer options were. Furthermore, the overall size of the panel with 57 experts was relatively small, and subgroups by medical discipline and region of practice were even smaller, limiting the power to detect true differences and the precision of all results presented above. Finally, for simplicity, our analysis treated all questions as equivalent and independent. In fact, some questions were related to each other, and a few questions specifically concerned choices between disciplines (eg, surgery vs radiotherapy), while the majority did not. Thus, our failure to reject the null hypothesis of no group differences does not exclude the existence of differences for individual specific questions.

In conclusion, the questions from APCCC 2019 for which consensus was achieved were supported by a majority of participants from each medical discipline and region of practice. This finding further strengthens the consensus achieved at APCCC 2019, as well as the threshold chosen for consensus ($\geq$75% agreement). Consensus conferences are not a substitute for higher levels of evidence, but can be useful in areas for which there is no high-level evidence and are uniquely able to highlight areas of nonconsensus for which further research should be performed.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at http://dx.doi.org/10.1016/j. euros.2021.01.010.

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