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Letter to the Editor

Should risk-adapted delineation considered de-escalation of therapy? The ESTRO-ACROP radiation therapy guidelines after implant-based immediate reconstruction for early stage breast cancer

We thank the author, Robert Mutter from Mayo Clinic, USA, for his letter regarding our guidelines [1]. We find this discussion very important for the readers and a good opportunity to clarify important points that were raised about our recommendations in case of *retro-pectoral* positioned implants.

The author expressed his concern about the ESTRO-ACROP guidelines' recommendation that even in high risk cases such as locally advanced breast cancer and residual disease after preoperative chemotherapy the ESTRO-ACROP consensus guideline recommends exclusion of the tissue between the chest wall and implant except for the area caudal from the pre-surgical position of the pectoralis major. However, we disagree that our guidelines support this statement. We specified clearly in the guidelines [2] that if the tumour is locally advanced, the extension of the tumour should be taken into account, meaning that in the cases mentioned by the author the dorsal rim needs to be included in the target volume. We refer the author to table 2 and to the discussion in our paper [2]. Moreover, the guidelines recommend that for high-risk patients, such as locally advanced (for example with residual disease after primary systemic therapy), treatment is to be individualized per case, based on a multidisciplinary discussion. The input of our colleagues, including surgeons, medical oncologists, pathologists, radiologists (for example assessing response to primary systemic therapy and the location of residual disease within the breast) is crucial for deciding on the target volumes and treatment approach. Moreover, as we recommend in our guidelines, in case of uncertainty, treatment should be in a similar manner to traditional tangential fields, including the implant and the retro-pectoral areas.

We read the statement "Furthermore, in lower risk patients undergoing PMRT the recommendation is for the area dorsal to the implant to be excluded in its entirety." The guidelines support volume-base irradiation, aiming to adequately cover high-risk areas for recurrence (similar to current radiation therapy practice for many other cancers). Hence, the concept of the guidelines is that only areas at risk need to be included in the target volumes. In low-risk patients, without involvement of the dorsal fascia, the area dorsal to the implant is not a high-risk site for local recurrence and by irradiating it, lung and possibly heart doses will increase [3]. Therefore, we thank Dr. Mutter for recognizing that "exclusion of the tissue dorsal to the implant should be recognized as a therapeutic de-escalation …" but we do not agree with the deduction that "… of an area potentially at risk of harboring microscopic residual disease". We avoid this by our careful considerations of selecting regions at risk based on well-established risk factors.

We only partially agree with the comment "Although the majority of clinically detected chest wall recurrences occur in the skin and subcutaneous tissues, up to 28% have been reported within or dorsal to the pectoralis major muscle (Figure)". First of all, such high rates were only seen in a few of the many (historical) series on this topic and those patients were treated in general according to old standards for imaging and target volume definition. Secondly, the retro-pectoral recurrence shown in the figure is highly likely a level 2 or even interpectoral lymph node recurrence and no chest wall recurrence as erroneously stated. The current PMRT guidelines recommend to use the ESTRO guidelines for contouring those lymph node regions [4,5] when indicated. These guidelines address also the author's concern "…axillary level 2 and 3 nodes can present several centimeters caudal to the subclavian vessels".

Concerning the comment that "Consistently, in modern trials evaluating the role of regional nodal irradiation, more distant recurrences were prevented than locoregional recurrences with more comprehensive treatment of deep seated regional lymphatics [6,7,14]. Therefore, patterns of local failure alone may not establish the safety of this approach [14].", we remind that the most recent of the "modern" trials completed accrual in 2007, in a time that radiation therapy was not yet properly target volume-based prepared. So we do not agree that we need to continue to irradiate as much (non-target) volume as we did in the past based on field-based approaches instead of on anatomical grounds. Following this, we underline that, following the authors' statement "However, if highly conformal techniques like", we are evolving towards exclusive use of highly conformal treatment techniques for breast cancer, similar to what is being done for many other cancers for already more than 10 years. We therefore agree with the authors where they state that "That said, these tissues have historically been treated, including in practice defining clinical trials". However, those studies date from a time that radiation therapy for breast cancer was based on clinically determined fields with borders set at anatomically defined landmarks. Just like in other tumour sites, with Head & Neck cancers as a perfect example, we are moving away from this towards proper anatomically-defined and risk-adapted target volume-based treatment preparation.

In summary, we advocate that it is time to move to strictly volume based-irradiation in breast cancer [2,5]. This, of course, should be done after appropriate training of the staff using programs such as the FALCON (Fellowship in Anatomic deLineation and CONtouring) educational program by ESTRO, and by participating in evidence based-multidisciplinary discussions. We agree with the author's recommendation the "Physicians must carefully balance target coverage with normal tissue exposure." and that …"Caution

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is warranted in high-risk patients and the safety of this approach should be confirmed with prospectively designed studies." Apart from (what should be) routine recording, analyzing and publishing outcomes of all our patients, we hereby warmly invite the authors and the readers to join us in the collaborative effort of such a trial [2,3].

References

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