



Response to "Optimizing palliative radiotherapy for breast cancer with skin involvement: technical and methodologic considerations"

Sun Ho Min¹, Hwa Kyung Byun²

¹Department of Radiation Oncology, Yonsei Cancer Center, Yonsei University College of Medicine, Seoul, Republic of Korea

²Department of Radiation Oncology, Yongin Severance Hospital, Yonsei University College of Medicine, Yongin, Republic of Korea

Received: November 11, 2025

Revised: December 3, 2025

Accepted: December 3, 2025

Correspondence:

Hwa Kyung Byun

Department of Radiation Oncology,
Yongin Severance Hospital, Yonsei
University College of Medicine, 363
Dongbaekjukjeon-daero, Giheung-gu,
Yongin 16995, Republic of Korea

Tel: +82-31-5189-8166

E-mail: hkbyun05@yuhs.ac

ORCID:

<https://orcid.org/0000-0002-8964-6275>

We sincerely appreciate the thoughtful comments from Inan et al. [1] regarding our recent article, "Role of radiotherapy in the management of breast cancer with skin involvement" [2]. We are grateful for their interest in our work and the opportunity to clarify several methodological aspects.

We agree that details such as treatment planning algorithms, bolus technique, and target delineation are relevant to interpreting radiotherapy outcomes. As described in our paper, treatments were delivered using 3-dimensional conformal radiotherapy or intensity-modulated radiotherapy. All treatment plans were generated in RayStation using the Collapsed Cone Convolution algorithm, and irradiation was performed using Infinity or Versa HD linear accelerator models (Elekta AB, Stockholm, Sweden). Bolus application was individualized according to the physician's discretion and applied to approximately one-quarter of the cohort (25.6%), using a daily bolus technique. The most frequently used bolus thickness was 5 mm (n = 7), followed by 10 mm (n = 4), and in most cases, the bolus fully covered the skin-involved area. Target delineation was performed with reference to visible or palpable tumor extent, generally including the gross tumor with a 1–2 cm margin. Respiratory motion management was not separately implemented, as our institutional analysis showed minimal respiratory motion of the breast skin under free-breathing conditions. Although further physical parameters were not specified, all treatments were conducted under consistent institutional quality-assurance standards, ensuring comparability of dose delivery across the cohort.

Regarding the treatment intent, we acknowledge the correspondents' concern that characterizing the cohort solely as "palliative" may obscure important heterogeneity. Traditionally, radiotherapy has been applied with clear intents of either cure or palliation. However, as discussed in recent literature on "strategic radiotherapy" [3], certain patients historically labeled as "palliative" may benefit from higher-dose treatment aiming for durable control to alter the disease trajectory, rather than solely for symptom relief. Consistent with this concept, our study employed an individualized radiotherapy strategy, tailoring the treatment approach to each patient's specific clinical context. While patients with poor performance status received modest doses for symptom alleviation, selected patients with reasonable life expectancy or limited metastatic burden were treated with higher doses with the expectation of achieving durable local control to meaningfully alter the disease course or improve the patient's quality of life. This distinction clarifies the intent behind the dose escalation in our cohort.

As requested, we provide the detailed metrics for the receiver operating characteristic analysis

used to determine the 75 Gy cutoff ($\alpha/\beta = 4$) which was derived using the Youden index to maximize discrimination for local progression. The analysis yielded a sensitivity of 0.741, specificity of 0.563, and area under the curve of 0.626 (95% confidence interval, 0.453 to 0.800). This exploratory analysis aimed to identify a potential dose–response trend in local control rather than to define a definitive clinical threshold.

We believe that such detailed discussions on treatment planning, dose selection, and therapeutic intent are essential not only for interpreting our results but also for guiding practical applications in clinical settings. Such discussion helps bridge the gap between research and practice, ultimately optimizing care for this challenging patient population.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

References

1. Inan GA, Aral IP, Ergiden C, Ayrak FB, Cevik V. Optimizing palliative radiotherapy for breast cancer with skin involvement: technical and methodologic considerations. *Radiat Oncol J* 2025;43:161–2.
2. Min SH, Chang JS, Kim YB, et al. Role of radiotherapy in the management of breast cancer with skin involvement. *Radiat Oncol J* 2025;43:73–8.
3. De Felice F, Minniti G. Strategic radiotherapy: a new proof of concept. *Cancer Lett* 2025;630:217897.