

Letters to the Editors

Response to the letter to the editor

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We would like to express our gratitude to Dr. Arachchigetheir for their interest in our work and for providing valuable suggestions and queries.

First, in this study [1], the diagnosis of digital mammography (DM) and digital breast tomosynthesis (DBT) was conducted by experienced breast surgeons with a minimum of 10 years of mammography experience. They held a qualification level of “rank A” in mammogram reading as per the standards established by the Japan Central Organization on Quality Assurance of Breast Cancer Screening. Experienced sonographers predominantly performed breast ultrasonography (US) with experience in over 6500 cases. The ultrasound findings were then double-checked and confirmed by experienced breast surgeons. The interpretations of dedicated breast PET (dbPET) were double-read by two board-certified nuclear medicine physicians. One of these physicians had a minimum of ten years of experience in PET interpretation.

Second, as mentioned in our paper, cancer screening at our institution was not limited to detecting breast cancer using dbPET alone. It was conducted as part of comprehensive whole-body cancer screening using whole-body PET/CT to detect various types of cancers. Dr. Arachchigetheir rightly highlights the long-term safety concerns related to PET, which involves ionizing radiation. Concerning whole-body cancer screening, a risk-benefit analysis conducted by Mitano et al. in 2011 indicated the potential benefits of whole-body PET/CT for women over 50s and whole-body dedicated PET for women over 30s [2]. Recent efforts, including low-dose CT and reduced FDG doses, have been made to mitigate these risks further. However, it is essential to note that the potential benefit-to-risk ratio for using dbPET as a standalone screening tool for breast cancer remains uncertain.

We are not optimistic about the feasibility of breast cancer screening using only dbPET without incorporating whole-body screening. Breast MRI may offer an alternative option for breast cancer screening without radiation exposure and is recommended for women at high risk for breast cancer. On the other hand, some limitations include potential risks associated with using Gadolinium-based contrast agents and patient intolerance during the examination. An alternative non-contrast screening MRI technique involves diffusion-weighted imaging. Nevertheless, this method has not yet gained common recognition as a primary modality for breast cancer assessment, mainly due to concerns regarding false-negative results and challenges in ensuring consistent image quality.

Lastly, it is acknowledged that positron emission mammography (PEM) offers several advantages, as Dr. Arachchigetheir mentioned. A direct comparison of the diagnostic performance between PEM and dbPET would be interesting. Nonetheless, dbPET may have unique benefits, including the ease of correlation with MRI, given that both are performed in the prone position, and the convenience and safety of imaging without breast compression.

References

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2. Murano T, Minamimoto R, Senda M, Uno K, Jinnouchi S, Fukuda H, et al. Radiation exposure and risk-benefit analysis in cancer screening using FDG-PET: results of a Japanese nationwide survey. *Ann Nucl Med*. 2011;25:657–66.