Letter to the Editor

eISSN 2005-8330
https://doi.org/10.3348/kjr.2020.0611
Korean J Radiol 2021;22(3):489-491

Korean Journal of Radiology
KJR

Contrast-Enhanced Spectral Mammography: Importance of the Assessment of Breast Tumor Size

Luca Nicosia, MD, Anna Carla Bozzini, MD, Antuono Latronico, MD, Enrico Cassano, MD

All authors: Department of Breast Radiology, European Institute of Oncology, IRCCS, Milan, Italy

Dear Editor,

We read with great interest the article by Lu et al. (1), recently published in the *Korean Journal of Radiology*, providing a comparison between the diagnostic performances of contrast-enhanced spectral mammography (CESM) and ultrasonography (US) in symptomatic patients with dense breasts, while using histology as the gold standard.

The authors highlighted the comparable diagnostic performances of CESM and US in symptomatic women with dense breasts in terms of sensitivity, specificity, positive predictive value, negative predictive value, and accuracy. Results of their study suggested the importance of the role of CESM in cases of women with dense or extremely dense breasts, where the diagnostic performance of full-field digital mammography could be lacking (2). Further, results of their study confirm that CESM could be greatly helpful for breast radiologists in the management of symptomatic patients, providing improved diagnostic and staging information at the first clinic visit (3).

However, data on comparison with size estimation of the breast lesion using pathological assessment of the resected specimen as the gold standard was lacking in their article: tumor size estimation plays a pivotal role in guiding the surgical management in breast cancer patients (4, 5).

Dromain et al. (6) showed that CESM had the smallest difference in mean size estimation when compared with the pathological assessment of the resected specimen, while mammography and US showed underestimations.

We would like to take this opportunity to show the preliminary results of a prospective study that we are performing at our institute (European Institute of Oncology, 20141 Milano, Italy) in a cohort of 160 women with dense breasts investigated using CESM, US, full-field digital mammography, and magnetic resonance imaging preoperatively. In our experience, CESM is superior to full-field digital mammography and US and comparable to magnetic resonance imaging in terms of correct estimation of the lesion size, using the pathological assessment of the resected specimen as the gold standard.

In light of this, acknowledgement by the scientific community of the full potentiality of contrast-enhanced digital mammography is strongly advocated (7).

In the future, other multicentric prospective randomized trials on a larger cohort of patients are advised to gather sufficient data on use of CESM in daily clinical practice. Moreover, we think it could be useful in internationally connecting physicians who are involved in the study of CESM and are investigating its full potential, clinical applications, and future developments, such as the analysis of radiomic features of lesions (8).

Received: May 10, 2020 **Revised:** May 10, 2020
Accepted: May 17, 2020
Corresponding author: Luca Nicosia MD, Department of Breast Radiology, European Institute of Oncology, Milan 20141, Italy.
• E-mail: lucanicosia88@gmail.com

ORCID iDs
Luca Nicosia
https://orcid.org/0000-0003-3979-8075
Anna Carla Bozzini
https://orcid.org/0000-0003-4271-133X
Antuono Latronico
https://orcid.org/0000-0002-7743-5657
Enrico Cassano
https://orcid.org/0000-0002-3437-8939

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https://doi.org/10.3348/kjr.2020.0611

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Response

Zhongfei Lu, MD

Department of Radiology, Yantai Yuhuangding Hospital, Yantai, China

To the Editor,

First of all, we appreciate your thoughtful comments on our article. We prospectively compared the diagnostic performances of contrast-enhanced spectral mammography (CESM) and ultrasonography (US) in symptomatic patients with dense breasts using pathology as the gold standard. Our results suggested that the diagnostic performance of CESM was comparable with that of US. There was no statistical significance in sensitivity, specificity, positive predictive value, or negative predictive value between CESM and US (1).

Several studies (2-7) showed that the evaluation of tumor size by CESM and pathology had a close correlation and that CESM tended to slightly overestimate the tumor size. The accuracy of CESM in evaluating the tumor size was comparable with that of magnetic resonance imaging. A few studies (2, 7) comparing CESM and US reported that the quality of tumor size evaluation using CESM was more accurate than that using US and that US tended to underestimate the tumor size, which may lead to a positive margin. Most articles about the evaluation of tumor size using CESM reported retrospective analyses in which ensuring that the orientation of an intact specimen was consistent with that of imaging was difficult. Tumor size evaluation plays a vital role in accurate preoperative staging and treatment management, warranting further prospective studies on CESM, with pathology as the gold standard.

We believe that your comments have helped improve our study and sincerely appreciate your attention.

ORCID iD

Zhongfei Lu

https://orcid.org/0000-0003-0155-8025

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