Diffuse Bilateral Breast Uptake on the Myocardial Perfusion SPECT of a Nursing Female

Case Report

Ramin Sadeghi, MD; Seyed Rasoul Zakavi, MD;
Mehdi Momennezhad, PhD; Vahid Reza Dabbagh Kakhki, MD

Nuclear Medicine Department, Imam Reza Hospital, Mashhad University of Medical Sciences, Mashhad, Iran.

(Received 5 October 2008, Revised 10 November 2008, Accepted 2 December 2008)

ABSTRACT

Bilateral diffuse intense breast uptake was noted in a 40 year old female who was evaluated with Tc-99m sestamibi (MIBI) myocardial perfusion scan for possible ischemia. She was breast feeding her 1.5 year old child. The intense uptake in the breasts was superimposed on the apical and anteroapical regions of the myocardium and caused interpretation problem. We recommend considering Tc-99m MIBI breast uptake during breast feeding as a possible cause of non-interpretable, superimposition of radiotracer on the myocardium in myocardial perfusion scan.

Key words: Breast uptake, Myocardial perfusion scan, Tc-99m sestamibi

Iran J Nucl Med 2008; 16(2): 41-44

Corresponding author: Dr. Vahid Reza Dabbagh Kakhki, Department of Nuclear Medicine, Imam Reza Hospital, Mashhad University of Medical Sciences, Ebn Sina Street. Mashhad, Iran.
E-mail: E-mail: dabbaghvr@mums.ac.ir

CASE REPORT

A 40 year old female with the history of atypical chest pain was referred to our department for evaluation of ischemia with myocardial perfusion scan. The patient underwent pharmacological stress (dipyridamole) and subsequently 740 MBq (20 mCi) Tc-99m sestamibi was injected intravenously. 60 minutes after radiopharmacetical injection myocardial perfusion SPECT was performed with a dual head gamma camera (E.CAM Siemens).

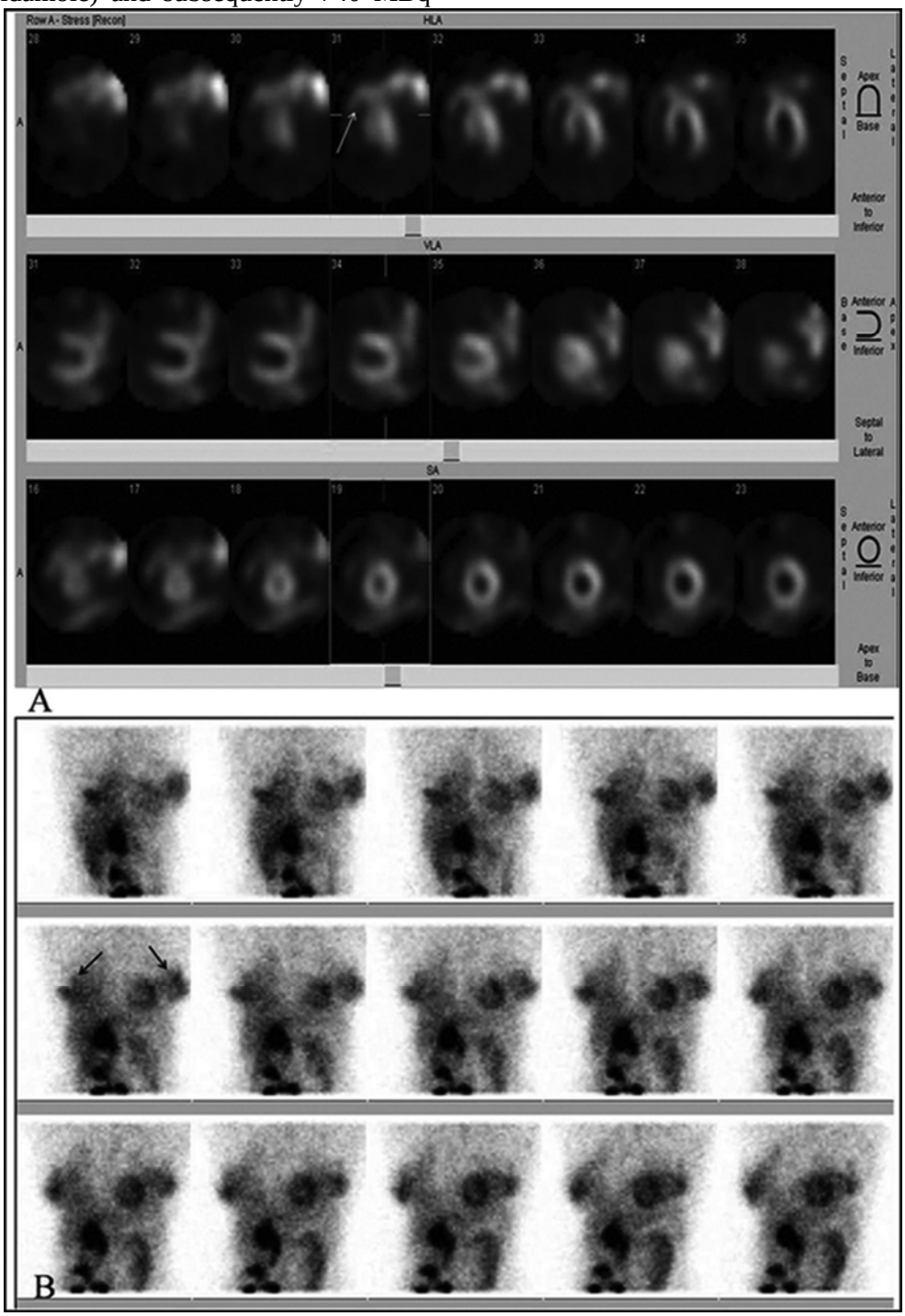

Figure 1. Reconstructed (A) and raw projection myocardial perfusion images (B) of the patient's study.

Bilateral diffuse breast uptake was noted on the reconstructed (Figure. 1A) and raw projection images (Figure. 1B) (white and black arrows, respectively). The patient was re-questioned and it was clarified that she was breast-feeding her 1.5 year old child. No palpable mass was noted during breast examination of the patient. In the earlier history taken before radiotracer injection, patient had not given any information about the breast feeding.

In the reconstructed images of our patient (white arrow), the breast activity was superimposed on the apical and anteroapical segments of the myocardium and posed an interpretation problem (Figure. 2).

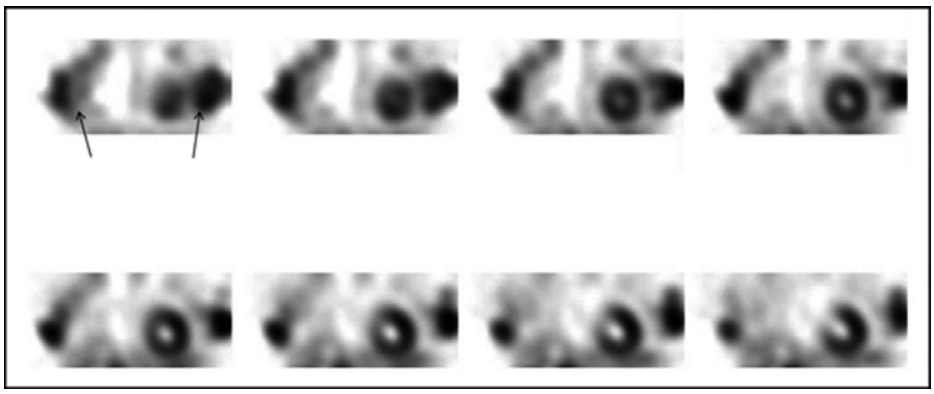

Figure 2. Coronal slices of the reconstructed myocardial perfusion images of the patient. The arrows indicate breast uptake. Note the proximity of the activity to the apical region of the myocardium which can cause superimposition artifact.

DISCUSSION

Tc-99m sestamibi has been used for scintimammography for a long time (1, 2). A variety of benign and malignant pathologies can cause increased breast uptake such as: abscess, fibroadenoma, fibrocystic disease, papilloma, post surgical scar and breast carcinoma (3). Moderate diffuse bilateral or unilateral increased uptake in the normal breasts was also noted in some patients, especially in the first and forth weeks of the menstrual cycle (1, 4).

The issue of breast uptake due to breast feeding on myocardial perfusion images has been addressed in a few reports (3, 5-7), however none of them discussed superimposition of the tracer on the myocardium. Although excretion of Tc-99m sestamibi in human breast milk is reported to be low and breast feeding need not be interrupted after myocardial perfusion scan (8, 9), we recommend considering Tc-99m MIBI breast uptake during breast feeding as a possible cause of non-interpretable , superimposition of radiotracer on the myocardium in myocardial perfusion SPECT.

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