Midventricular Takotsubo Cardiomyopathy on $^{99m}$Tc-tetrofosmin and $^{123}$I-BMIPP SPECT

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Picture 2.
A 62-year-old woman was admitted with chest pain. Coronary angiography showed normal coronary findings. A left ventriculogram revealed apical and basal hyperkinesis and midventricular akinesis (Picture 1a; end-diastole, Picture 1b; end-systole, Supplementary material). $^{99m}$Tc-tetrofosmin and $^{123}$I-beta-methyl iodo phenyl-pentadecanoic acid (BMIPP) dual rest single-photon emission computed tomography (SPECT) was performed in the supine and prone positions using a cadmium-zinc-telluride (CZT) camera on day 3. The SPECT image demonstrated a perfusion/metabolism mismatch of the entire midventricular circumference that was not related to the coronary territory (Picture 2a). The image obtained in the prone position clearly revealed the mismatch by a reduction of attenuation (Picture 2b).

$^{123}$I-BMIPP has been reported to be useful for diagnosing Takotsubo cardiomyopathy (1). The high sensitivity of the CZT camera allowed for $^{99m}$Tc-tetrofosmin and $^{123}$I-BMIPP dual SPECT to be performed (2). This protocol enables the radiation exposure of patients to be reduced in comparison to the $^{201}$thallium and $^{123}$I-BMIPP protocol. In this case, SPECT revealed a strong correlation between the location of the wall motion abnormalities and myocardial perfusion/metabolism mismatch in a patient with a rare atypical form of Takotsubo cardiomyopathy.

The authors state that they have no Conflict of Interest (COI).

References