Does myocardial thallium-201 SPECT combined with electron beam computed tomography improve the detectability of coronary artery disease?
—Comparative study of diagnostic accuracy—

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Objective. The aim of this study is to evaluate the diagnostic accuracy of myocardial 201TI SPECT combined with EBT for detecting CAD.

Methods. The study was based on 34 patients with suspected CAD, who had EBT and myocardial 201TI SPECT. The CAD was diagnosed by the findings of coronary arteriography. Sensitivity, specificity and accuracy of EBT, myocardial 201TI SPECT and the combined diagnosis on a per-vessel basis and a per-patient basis were studied.

Results. The sensitivity for detecting CAD of myocardial 201TI SPECT, EBT and the combined diagnosis was 85%, 77%, and 62%, respectively. No significant difference in the accuracy of myocardial 201TI SPECT, EBT and the combined diagnosis was observed on a patient basis and per-vessel basis. In the over 70 yr age subgroup, the sensitivity and accuracy of EBT for detecting LAD lesion were significantly superior to those of myocardial 201TI SPECT. Regardless of age-based subgroups and gender, the combined diagnosis did not contribute to an improvement in diagnostic accuracy.

Conclusion. Although the sensitivity of EBT for detecting LAD lesion in patients over 70 yr of age was significantly higher than that of myocardial 201TI SPECT, in the detectability of CAD, combined use of myocardial 201TI SPECT and EBT offers no improvement.

Key words: coronary artery disease, single photon emission computed tomography, thallium-201 chloride, electron beam computed tomography