

Outlining the body contours with scattered photons in lymphoscintigraphy for sentinel nodes

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Although lymphoscintigraphy is a useful method of detecting the sentinel nodes of malignancy, conventional lymphoscintigraphy images only the sentinel nodes without revealing their anatomical location. We, therefore, used scattered photons to attempt to outline the body contours of patients with either breast or esophageal cancer. Lymphoscintigraphy was performed 3 to 4 hours after the injection of 111 MBq of ^{99m}Tc tin colloid into the peritumoral region. Images were obtained with dual-energy windows of 130 to 150 keV for the primary photons and 70 to 110 keV for the scattered photons. The images constructed from the scattered photons clearly showed the contours of the body, and the fusion images constructed from the primary and scattered photons allowed for easy identification of the location of the sentinel nodes. The results of this study confirm that images obtained from scattered photons on lymphoscintigraphy are helpful in identifying the anatomical location of sentinel nodes.

Key words: sentinel node, lymphoscintigraphy, ^{99m}Tc tin colloid, scattered photon, Compton scattering