ASRP 2025 - Alpic School for Radiation Physics



Contribution ID: 86

Type: not specified

Evaluating Radiation Safety in SPECT/CT Lymphoscintigraphy: CT Dose Monitoring and Documentation Gaps

Friday 20 June 2025 09:30 (20 minutes)

Abstract

This study assesses radiation doses from the CT component of SPECT/CT scans used in lymphoscintigraphy procedures at a single institution. Data from 130 patients were analyzed, focusing on CT dose metrics, including CTDIvol, SSDE, and DLP, alongside technical parameters such as tube current, collimation, and pitch. Results showed an average CTDIvol of 2.07 ± 1.25 mGy (range: 0.08-7.11 mGy), DLP of 81.01 ± 62.15 mGy⁻ cm (range: 3.38-264.58 mGy⁻ cm), and SSDE of 4.97 ± 1.35 mGy (range: 3.14-8.25 mGy). Fixed tube voltage (130 kV) and variable tube current (mean: 65.41 mA, max: 195 mA) were observed, with collimation and pitch tailored to protocols. The CT doses align with diagnostic reference levels, suggesting adherence to safety standards. These findings emphasize protocol optimization and standardized reporting to ensure patient safety while maintaining diagnostic efficacy in hybrid SPECT/CT imaging. Keywords: SSDE, CTDIvol, DLP, SPECT/CT

Author: Prof. SULIEMAN, abdelmoneim (2Department of Radiological Sciences, College of Applied Medical Sciences, King Saud Bin Abdulaziz University for Health Sciences, P.O. Box 2477, Al-Ahsa, Al Hofuf 31982, Saudi Arabia)

Presenter: SALAH, Hassan (Inaya Medical College)

Session Classification: Oral Session S20-1