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Standardization of FDG-PET/CT for Response Evaluation by RSNA-QIBA Profile: Preliminary Results of a Multicenter Study

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Background / Aims: International multicenter clinical trial of SP-02 (Darinaparsin) for peripheral T-cell lymphoma (PTCL) has been conducted. Therapeutic response is evaluated by FDG-PET/CT in each facility, and the imaging conditions should be standardized in advance. In this study, we show the results of standardization by phantom tests based on RSNA-QIBA profile [1].

Methods: We performed phantom test for each scanner in the participating facilities before patient enrollment. The institutional review board approved the clinical trial in each center.
We used National Electrical Manufacturers Association (NEMA) International Electrotechnical Commission (IEC) Body Phantom and adjusted parameters of imaging equipment to meet the criteria for standardization in compliance with RSNA-QIBA profile [1] and Japanese guideline for the oncology FDG-PET/CT data acquisition protocol [2]. The imaging parameters included acquisition time per bed position, time from ^{18}F-FDG dosing until scan and image reconstruction parameters.

Results: Twenty-five facilities participated in this trial. Sixteen sites (64 %) were required to change one or more parameters. Acquisition time per bed position had to be changed in 5 sites (20 %). Time from ^{18}F-FDG dosing until scan and image reconstruction parameters were altered in 3 sites (12 %) and 16 sites (64 %), respectively. After adjustment, we confirmed that the image quality met the criteria for standardization.

Conclusion: We performed the standardization of imaging conditions which was needed for evaluation by PET/CT image in a multicenter study.

References:

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Disclosure of Interest: None Declared