The exposure radiation dose measurement of transmission scanning in PET

- the multiple facilities comparison

Keiichiro Yamaguchi[1)], Kazuaki Kumagai[1)], Takehisa Sasaki[1)], Masatoshi Itoh[1)], Kazunori Terasaki[2)]

Cyclotron and Radioisotope center, Tohoku University
Aramaki, Aobaku, Sendai, Miyagi 980-8578, Japan

Cyclotron Research Center, Iwate Medical University
348-58 Tomegamori, Takizawa, Iwate 020-0173, Japan

Abstract

The exposure dose of transmission scanning in PET was compared between the multiple facilities and also measured radiation exposure rate of X-CT using the PET-CT condition. An ionization chamber, a semiconductor line quantity meter and glass dose meter were used for measurement. The exposure doses of the transmission scan were less than 100uSV in each facility. The exposure dose of the CT was more than 1.4mSV. The radiation exposure rate of X-CT for the transmission is twenty times higher than conventional transmission scan.
It is necessary to optimize the irradiation exposure using PET-CT.