

## WHOLE-BODY CANCER SCREENING USING PET/CT

### Abstract

[Introduction] Positron emission tomography-computed tomography (PET/CT) including 8 F-fluorodeoxyglucose (FDG) is one of the nuclear medicine imaging methods. PET/CT has been widely used for advanced cancer screening in accordance with the fact that various screenings are being performed for each organ. [Objective] The aim of this study was to investigate its sensitivity and specificity at a single-center where screening, using PET/CT was performed, and to evaluate its usefulness in cancer screening. [Methods] A retrospective cohort study was performed from November 1, to December 31, 2019. Investigated participants received cancer screening using PET/CT from April 2016 to December 2018, at Nishidai Clinic, Tokyo. [Results] Of the 3784 patients (mean age 55.2, SD 12.5; male: female 2132:1652) screened, 771 were referred for more testing, and 357 (46.3%) responded. Finally 22/69 had confirmed cancer diagnoses following the accumulation FDG in PET/CT. Sensitivity was 66.7%, and specificity was 14.5%. Participants include cancer survivor (41/750, 5.3%) who doesn't receive medication, also include people who receive PET/CT as medical tourism from Asia (463, 12.2%). The digestive organs (9/47, 19.1%) and thyroid (7/27, 25.9%) were most highly detected of cancer. [Conclusion] To make PET/CT a screening priority, the sensitivity, specificity as a whole-body were not sufficient to adequate evaluation. It is considered that the use differs depending on the site. Though cancer screening using PET / CT has been adopted as a whole-body search, cost and benefit analysis could be essential to maintaining and increasing clinical versatility.

*Key words:* cancer screening, PET/CT, FDG-PET, whole-body examination