

PET and cancer screening

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Various carcinomas are discovered incidentally during FDG PET study. This points to the potential use of PET as a cancer screening modality. Our experience using three PET scanners showed that PET can be performed in many individuals, and a wide variety of carcinomas can be detected at potentially curable stages. PET screening targets various organs that conventional organ-specific screening tests cannot cover. PET used simultaneously with conventional tests can prevent the overlooking of cancer, reduce false-positive results, and assist in the interpretation of CT and MR images. Thus, PET can play a supportive role when used with conventional screening tests. To reduce false-positive and false-negative results in PET screening, however, experienced PET oncologists who can differentiate between distinct physiological FDG uptake and faint abnormal FDG uptake are needed. In Japan, more than half of the PET facilities offer PET examinations for cancer screening of asymptomatic persons. Not a few individuals pay for sophisticated cancer screenings. Guidelines concerning the use of PET for cancer screening were issued by the Japanese Society of Nuclear Medicine in 2004. The guidelines provide for maintenance of study quality and warn of overselling PET screening. It is unclear how much PET contributes to sophisticated cancer screening. Data are lacking as to whether mortality is reduced by PET screening. Scientific evidence should be presented demonstrating the value of PET in cancer screening.

Key words: PET, cancer screening, FDG PET