Nuclear Medicine PET/CT Scan

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If you are arranged for the Nuclear Medicine PET/CT Scan after the evaluation by clinical physician, the following introduction is intended to help you gain further understanding of this examination.

Main Purpose

- The application of PET / CT scans in health examination: New tool for early discovery of cancer.
- The application of PET / CT scans in tumor :

    (1) Identification of malignant or benign tumor.

    (2) Determination of cancer cells metastasis.

    (3) Evaluation of cancer treatment effect.

    (4) Tracing cancer relapse or metastasis.

Examination Method

- Positron Emission Tomography (PET) is one non-invasive and functional nuclear medicine tomography. It applies substance able to emit positive electron via its radioactive decay (i.e. the fluoroglucose, abbreviated as FDG, marked by F-18) to detect the glucose metabolism of cells in human body.
- FDG is injected to human body via intravenous injection, where the tissue cells with exuberant metabolism (i.e. cancer cells) will absorb more FDG, which undergoes PET scan and computer restructuring to form different contrast in image, producing images that could be read by naked eyes to make correct diagnosis.

- In contrast to traditional examination, PET offers better detection rate and accuracy. Nowadays the instruments are added with computer tomography, namely (PET/CT), which further improves the accuracy.

Health Insurance Indications

- Indications for Tumor :

    (1) The staging, treatment and suspected relapse or re-staging of breast cancer and lymphoma.

    (2) The staging and suspected relapse or re-staging of colorectal cancer, rectal cancer, esophageal cancer, head and neck cancer (excluding brain tumo r), primary lung cancer, melanoma, thyroid cancer, and cervical cancer.

    A. Staging : Evaluating tumor staging.

    B. Treatment : Evaluating the tumor reaction to treatment and planning to change treatment method.

    C. Suspected relapse or re-staging : Applying to patients who have already received certain phase of orthodox treatment and are detected with the level of relapse or metastasis and evaluated relapse (may not be used on routine tracing examination).

    D. The above steps must meet the follows : Those who could not be staged after conducting examinations such as CT, MRI, and nuclear medicine scan, or those are recognized as insufficient CT and MRI to provide sufficient information for treatment needs, which must also be described on the medical history of the necessary reason for implementing positron imaging.

    E. Subjects who plan to incorporate with tumor treatment plan may use positron imaging as treatment evaluation item. However subject who do not have subsequent and active treatment plan may not be implemented.

- Indications for Non-Tumor :

    (1) Viable myocardium detection: Applicable to those limited to the left ventricular ejection fraction of $\leq 40\%$ while the patient (or recognized) could not make precise viable myocardium through traditional myocardial perfusion scan.

    (2) Pre-operative evaluation of epilepsy syndromes: Pre-operative evaluation for those continuously and regularly taking 3 types (inclusive) and

more anti-epilepsy medicine for treatment ≥ 1 year and an average of more than 1 outbreak per month in the last 1 year with complications of loss of consciousness.

Precautions

- Pregnant women are advised not to take PET and please inform us before the injection in case the subjects are pregnant.
- The full-body FDG scan requires 6 hours of fasting (only water allowed). Patients of diabetes need to inform in advance.
- FDG will decay with time and please inform the medical staff in case the subject needs to change the examination time. Do not be late for report as it will affect the examination and report time.