

Procedure Involved in Positron Emission Tomography

Elizabeth Jeremy*

Department of Oncology, Imperial College London, London, United Kingdom

DESCRIPTION

A Positron Emission Tomography (PET) scan is an imaging test that helps to diagnose the biochemical or metabolic function of your organs and tissues. The PET scan uses a radioactive drug (a tracer) to display both abnormal and normal metabolic activity. A PET scan can frequently detect the abnormal metabolism of the tracer in diseases before the disease shows up on other imaging tests, such as Magnetic Resonance Imaging (MRI) and Computerized Tomography (CT). The tracer is regularly injected into a vein of the arm or hand. The PET images are usually combined with CT or MRI and are called PET-MRI or PET-CT scans. PET scans detect diseased cells in tissues and organs. Abnormal cells in the body absorb more of the radiotracer than normal cells. The PET scanner recognizes this radiation and produces images of the affected tissue. A PET/CT scan combines X-ray images from a CT scan with PET scan images.

Procedure

The patient receives an IV injection of a radiotracer that contains a required amount of a radioactive drug. The most regularly used radiotracer is Fluoro Deoxy Glucose (FDG). The patient is allowed to sit on a chair for about an hour while the radiotracer moves through their bloodstream. Moreover, much activity can send the radiotracer to areas of the body and that the healthcare provider isn't testing. We won't be able to feel the radiotracer. The organs and tissues absorb the radiotracer within one hour. If the patient is getting a PET/CT scan, they may also get an IV injection of a contrast dye. This dye helps to produce sharper CT images. The patient lies on an exam table that slides in and out of the CT/PET scanner. This scanner is designed like a doughnut. The tunnel, or doughnut opening, is about 30 inches in diameter. During the test, the patient must remain

constant. Movement can blur the images. The person will hear clicking and buzzing sounds as the scanner takes images. One should inform their healthcare provider if being in an enclosed space makes them anxious. During the procedure, the patient may take a mild sedative that helps them relax. A technician will review the scans before they leave to confirm the images are in focus. The entire PET scan procedure takes about two hours. It can take up to an hour for the body to absorb the injected radiotracer. During this time, the person needs to sit quietly and limit their movements. The actual PET scan takes about 50 minutes.

Cancer cells indicate as bright spots on PET scans because they have a higher metabolic rate when compared to normal cells. PET scans may be useful in: Revealing whether the cancer has spread, checking whether a cancer treatment is working effectively or not, Finding a cancer recurrence, and Detecting cancer.

CONCLUSION

The PET scans must be taken carefully because noncancerous conditions can look like cancer, and some cancers do not seem to appear on PET scans. Many types of solid tumors can be detected by PET-MRI and PET-CT scans, including Breast, Brain, and Colorectal, Esophageal, Cervical, Lymphatic system, Pancreatic, Prostate, Lung, Skin, Thyroid, Bone, Head and neck. PET/CT technology has promptly grown during the last period, resulting in clinically available scanner systems that produce high-quality visualization of the complementary morphological, anatomical and functional or molecular information within the reasonable scanning times. An important requirement for this achievement was the basic understanding of the underlying physics of both PET and CT imaging.

Correspondence to: Elizabeth Jeremy, Department of Oncology, Imperial College London, London, United Kingdom, E-mail: jeremy.elizabeth@vumc.org

Received: 27-Aug-2022, Manuscript No. JTDR-22-18733; **Editor assigned:** 01-Sep-2022, PreQC No. JTDR-22-18733 (PQ); **Reviewed:** 15-Sep-2022, QC No. JTDR-22-18733; **Revised:** 22-Sep-2022, Manuscript No. JTDR-22-18733 (R); **Published:** 29-Sep-2022, DOI: 10.35248/2684-1258.22.8.173.

Citation: Jeremy E (2022) Procedure Involved in Positron Emission Tomography. J Tumor Res.8:173.

Copyright: © 2022 Jeremy E. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.