Introduction and aim of work

PET/CT scanners were invented by DR.David Townsend and Dr. Ron Nutt. The PET/CT is a significant aid in the interpretation of PET, since anatomical structures are not clear in the PET image.CT scan takes around 10 to 30 seconds to complete, a PET can takes anywhere from7 minutes to 40 minutes (depending upon how much of the body is imaged, and the quality of the scanning system).The registration of PET and CT images is best with a combined PET/CT scanner since it minimizes the effects of patient movement (although both respiratory and bowel action can cause slight localized misregistrations which physicians are trained to recognize) (**Bailey et al, 2004).**

A PET study involves the use of a medical cyclotron which
produces the radioactive positron emitters, which are used to "label" specific drugs or analogues of natural body compounds, such as glucose. The labeled compound, which is called a radiotracer, is then injected

into the blood stream, which carries it to the brain; sensors in the PET scanner detect the radioactivity as the compound accumulates in different regions of the brain. A computer uses the data gathered by the sensors to construct multicolored two-or three-dimensional images that show where the compound acts in the brain **(Aine, 1995).**

PET can look at brain tumor and reveal if it is benign or malignant. It is also widely used where recurrence is suspected to show whether structural change is tumor re growth or merely scar tissue. **(Ichise et al, 2002).**

The aim of this work is to review and highlight the role of simultaneous combined positron emission tomography andcomputed tomography in epilepsy..