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Imaging with new PET tracers in oncology**Alka Chengapa**

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New PET tracers in oncology-presently 18F-fluorodeoxyglucose (18-F FDG) are the workhorse of PET imaging in Oncology. However, the main disadvantage is its non-specificity. HCC, neuroendocrine tumors, prostate tumors, CNS tumors and renal cell carcinomas may show low or absent FDG uptake. New tracers have been developed to give better sensitivity and specificity. Some are used in clinical practice, while some are still undergoing clinical and pre-clinical trials. Those that are already used for clinical applications include 11C- and 18F-Choline, 11C-Methionine and 18F-FET, 18F-DOPA, 68Ga-DOTA-somatostatin analogues, 11C-acetate and 18F-FLT and 68Ga-PSMA.stu . Other tracers are used in PET not as markers of metabolic activity but as markers of hypoxia inside big neoplastic masses. These compounds (the most important are 18F-MISO, 64Cu-ATSM and 18F-EF5) which highlight the presence of hypoxic areas are useful for patients who must be treated with radiotherapy. In fact, it is well known that hypoxia is one the strongest factors associated for treatment resistance and hypoxic areas should be recognized and over-treated compared to non-hypoxic malignant tissues.