

Emerging Technologies, Challenges and Opportunities: Role of Imaging in Breast Cancer

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Making Cancer History™

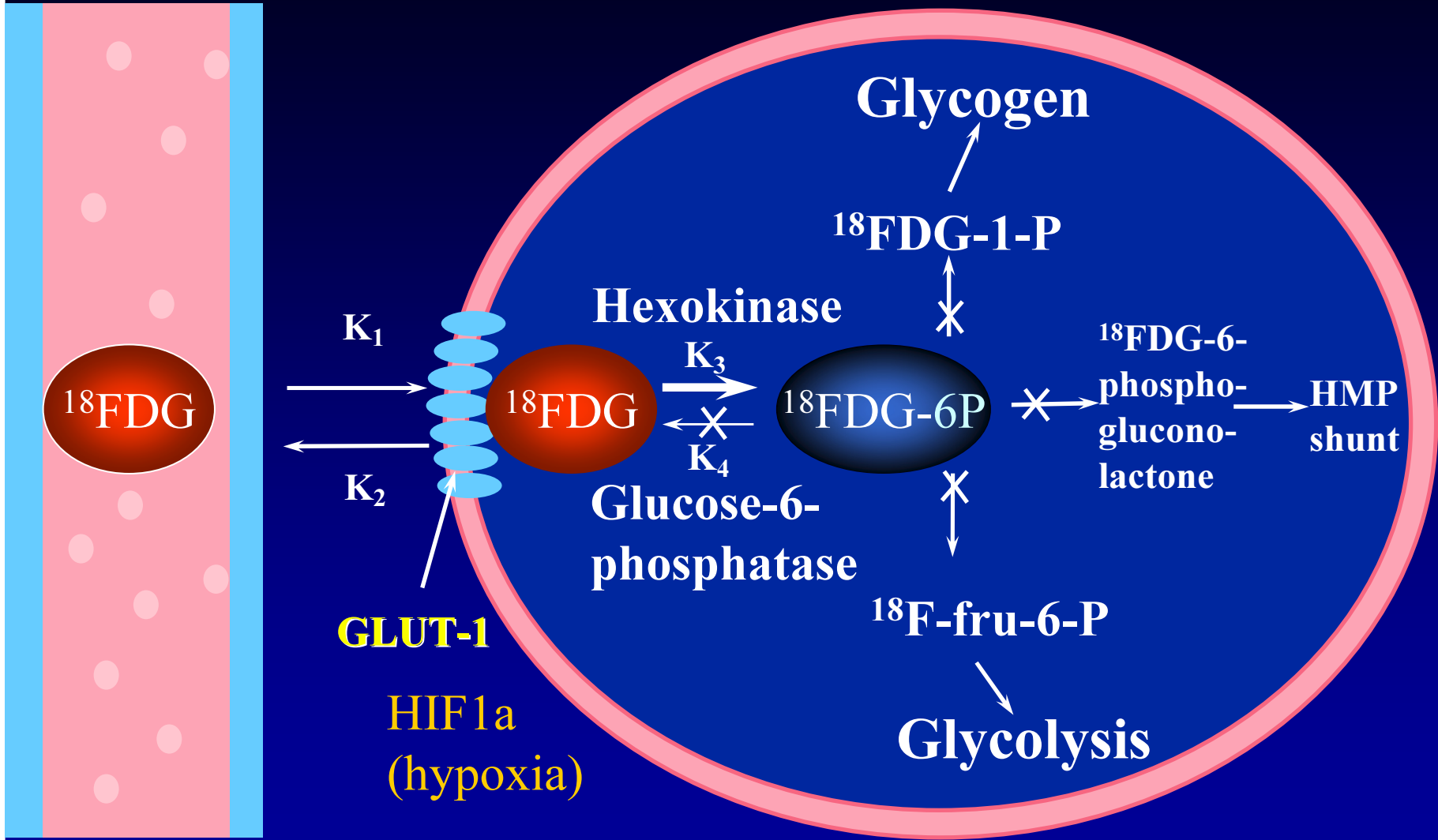


Molecular Imaging

- Visualization, characterization and quantification of biologic processes taking place at the cellular and sub-cellular levels
- Nuclear Medicine Tracers: PET, SPECT
- X rays: CT
- Sound: US
- Light: Optical bioluminescence/fluorescence
- Magnetism: MRI

Vascular

Cancer Cell



GLUT-1

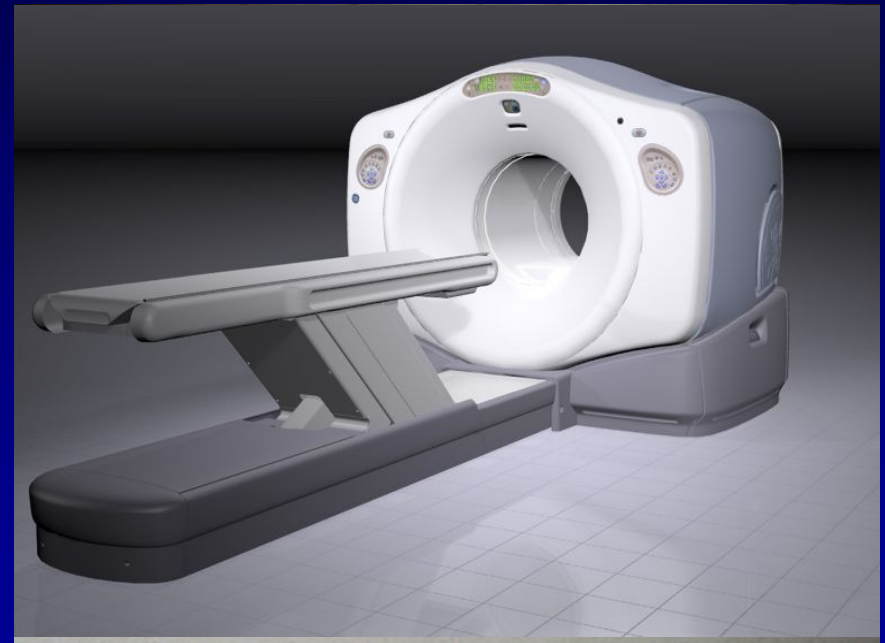
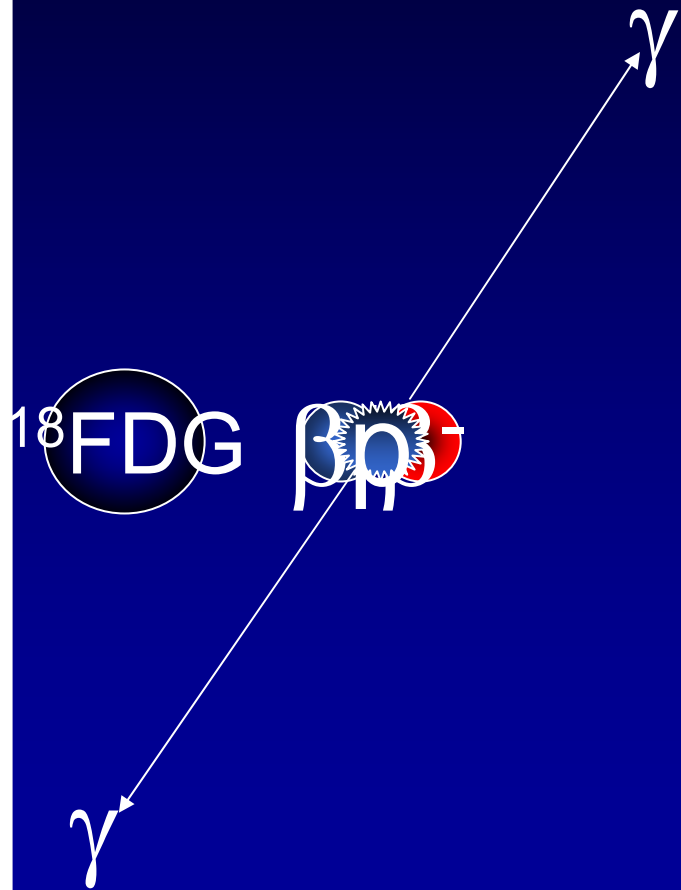
HIF1a
(hypoxia)

Angiogenesis, bFGF,
PDGF-BB, EGFR

Macheda, J Cellular Physiology 2005; 202:654-662

Bos Histopathology 2005;46:31-36

PET/CT





UT-MDACC

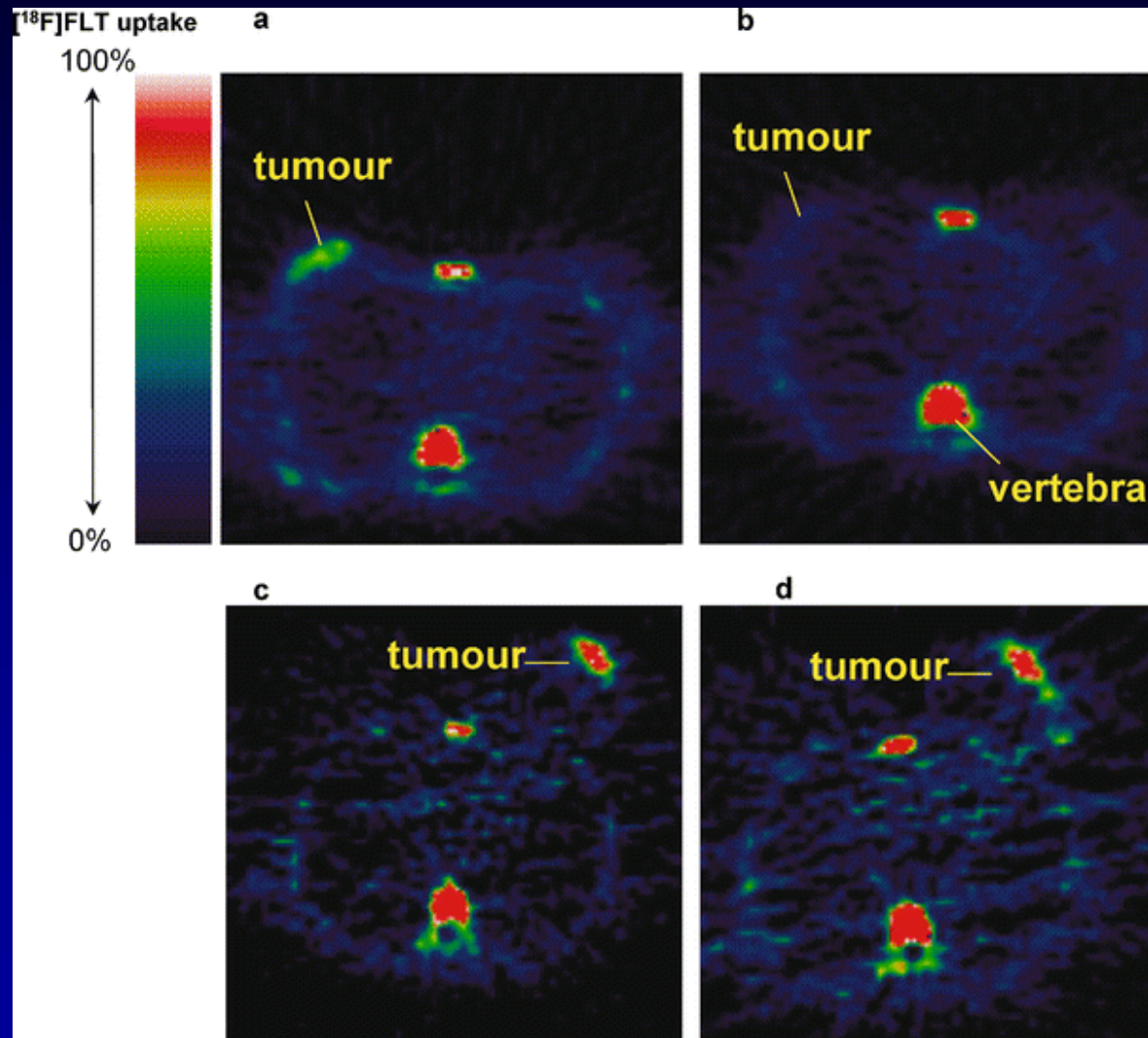
IPVL

Reduction in FDG retention is Associated with a Pathologic Response and Improved Survival



Breast Cancer

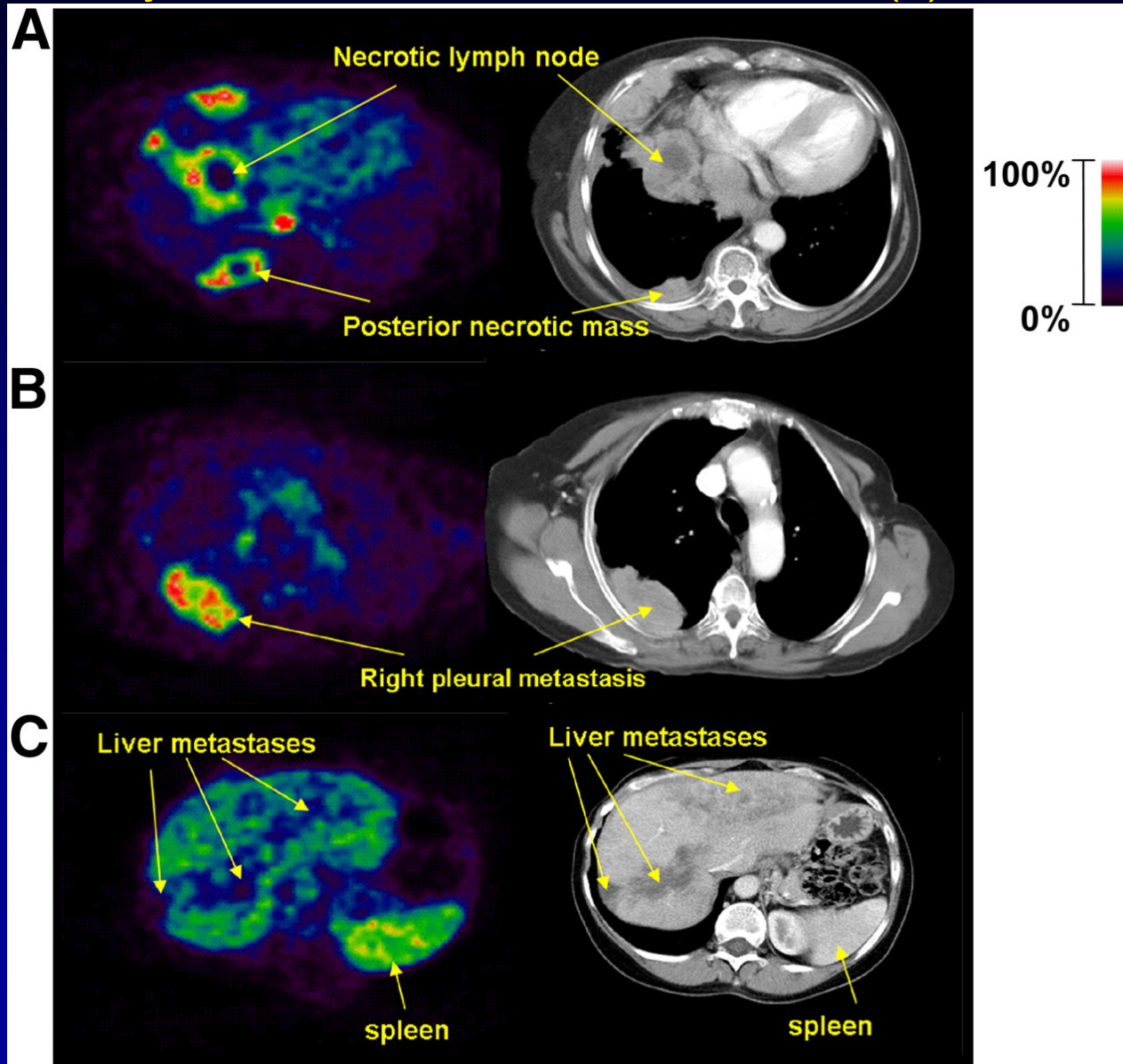
FLT PET at 1 week post Chemotherapy: in Breast Cancer



Kenny L , et. al. Eur J Nucl Med Mol Imaging. 2007 Sep;34(9):1339-47.

(RGD) peptide radioligand ^{18}F -AH111585 in Breast Cancer.

Kenny LM et.al. J Nucl Med. 2008 Jun;49(6):879-86.



Fluoroestradiol PET

Her2 PET

