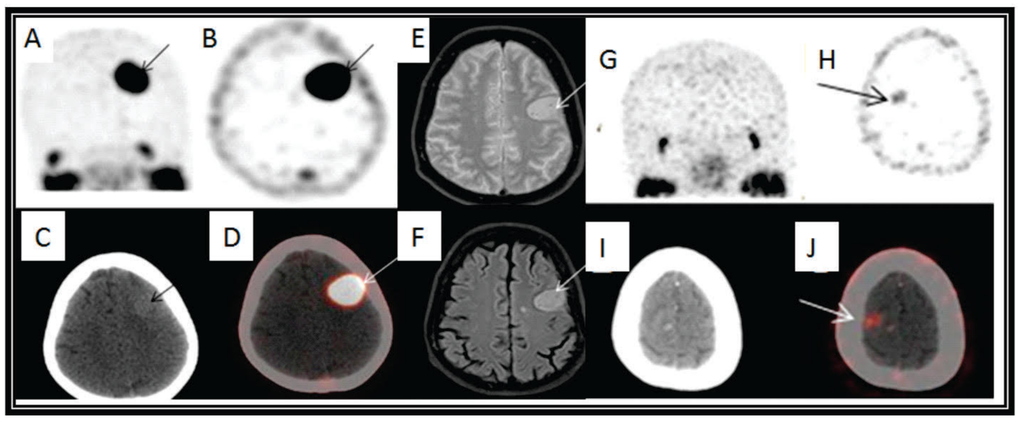
NUCLEAR MEDICINE WEEK 2018

Towards Newer Horizons

Golden Jubilee of Society of Nuclear Medicine, India

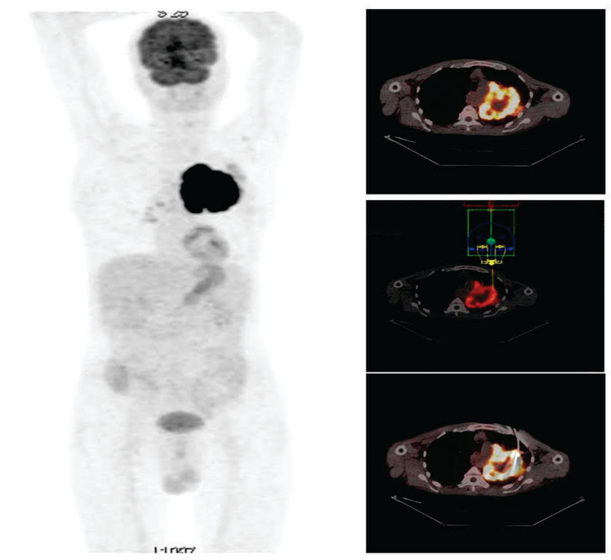
29th October – 3rd November 2018



68Ga-PSMA PET/CT as a new diagnostic tool in Glioma imaging with potential therapeutic application!

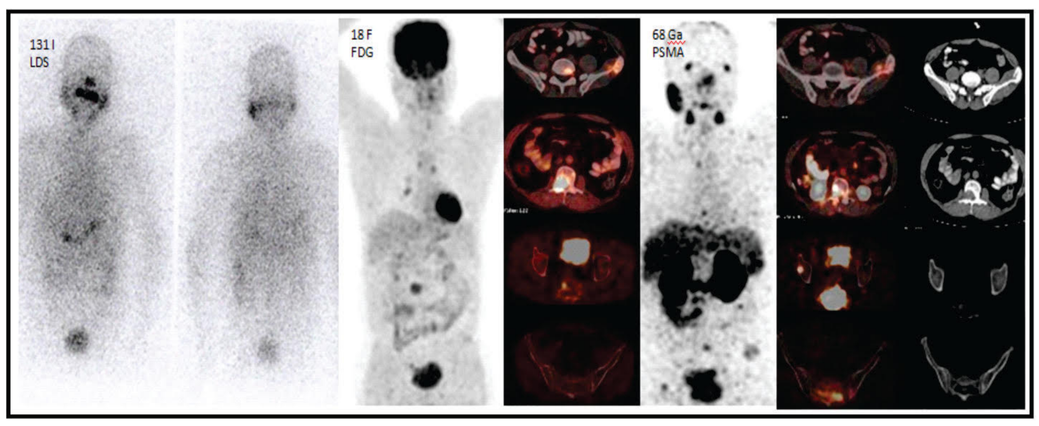
Regional 68Ga-PSMA PET/ CT and MR brain Images of a patient with high grade glioma (A-F) showing intensely PSMA avid left frontal lobe lesion (SUVmax 24.5 and tumor to background ratio 15.7). Regional 68Ga-PSMA PET/ CT images of another patient with low grade glioma (G-J) showing low grade PSMA uptake in right parietal lobe lesion (SUV max 3.2 and tumor to background ratio 4.71).

Image contributed by: Priyanka Verma, Gaurav Malhotra, Ashok Chandak, Sutapa Rakshit, Sunita Sonavane, Ramesh V. Asopa, Sharmila Banerjee. *Radiation Medicine Centre, Bhabha Atomic Research Centre, Mumbai*

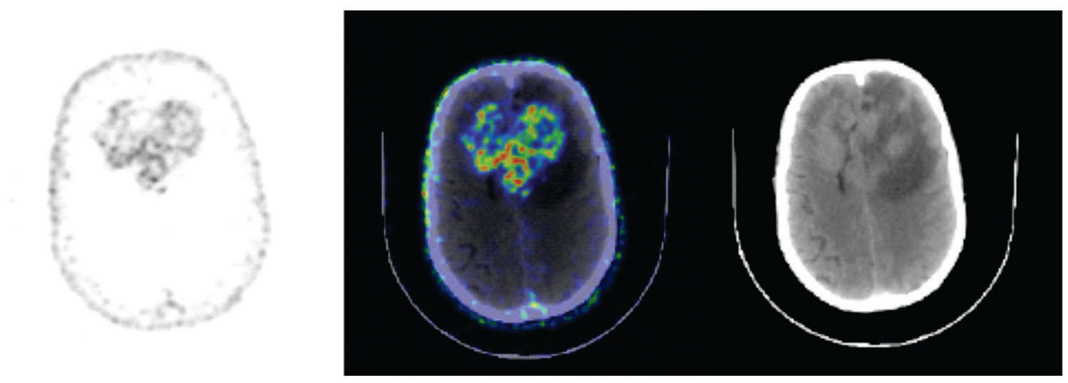


Incremental Value PET/CT Guided Biopsy Over Conventional Techniques.
70 year male with left lung mass and prior inconclusive CT-guided and bronchoscopic biopsies. Patient was referred for PET/CT guided biopsy to target metabolically active part of the lesion. ^{18}F-FDG PET MIP showing FDG avid lesion in left lung. Transaxial fused PET/CT images show large mass in in the LUL with central necrosis (Top). Planning of robotic arm assisted neddle trajectory for PET/CT guided needle placement is seen (middle). Final check scan after needle placement shows tip of the biopsy gun in FDG avid margin of the tumor (Bottom). Histopathology revealed Squamous cell carcinoma (NOS).

Image contributed by: Rajender Basher, Harmandeep Singh, BR Mittal. *PGIMER, Chandigarh*



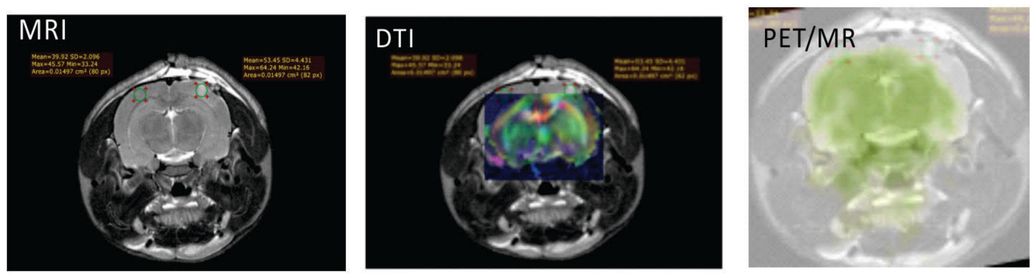
Potential utility of PSMA labeled theranostic agent in Differentiated Thyroid Cancer
131I whole body scintigraphy, 18F-FDG and 68Ga-PSMA-HBED-CC PET/CT images in a case of metastatic Differentiated Thyroid Cancer with elevated Thyroglobulin levels (225 ng/ml) and negative 131I whole body scintigraphy (TENIS). 18F-FDG PET/CT demonstrates FDG avid metastatic skeletal lesions. 68Ga-PSMA PET/CT images shows evidence of PSMA expression in skeletal lesions (in L3, L5, sacrum, right acetabulum and left iliac bone). This opens new avenues of potential PSMA therapy in patients with TENIS.
Image contributed by: Priyanka Verma, Gaurav Malhotra, Sunita Sonavane, Ramesh V. Asopa, Sharmila Banerjee. *Radiation Medicine Centre, Bhabha Atomic Research Centre, Mumbai*

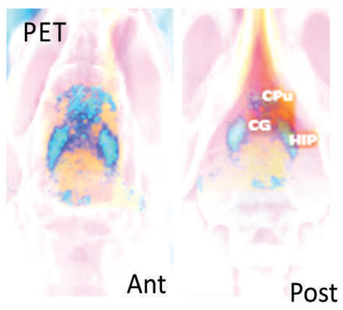


^{68}Ga-Pentixafor (a radiolabelled cyclic pentapeptide) PET imaging targeting CXCR4 receptors in a post surgery patient with "Butterfly shaped" Glioblastoma. Transaxial images shows excellent Tumor to background ratio with SUV of 4.02 suggestive of residual disease. This radio-ligand is anticipated to be "Millennium Molecule for Theranostic applications" in various cancers.

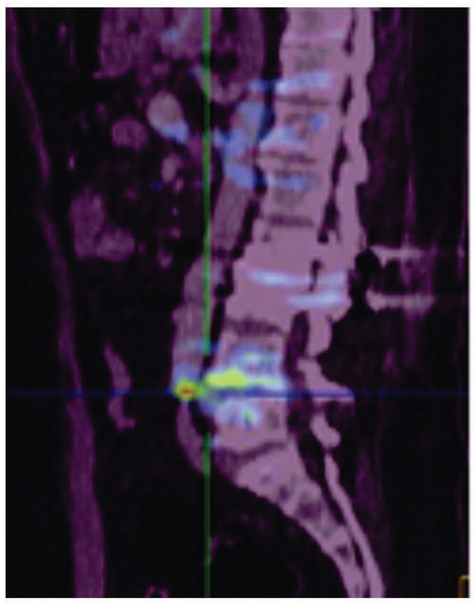
Image contributed by: Ankit Watts, Baljinder Singh, BR Mittal. *PGIMER, Chandigarh*

PRECLINICAL PET AND MR-DTI IMAGING TO VISUALIZE NEURODEFICITS IN BRAIN: A STEP TOWARDS THERAPEUTIC INTERVENTION OF NEUROCOGNITIVE DISORDERS





"Diagnostic intervention paves the way for therapeutics or as they say intellectualizing techniques of detection will be of immense help to the society"
The functional brain imaging method using PET application with innovative radiotracers in the area of neurotransmitters, peptides and neoligands, have made it possible to track neurocognitive diorders at an early stage. But Multimodal Methodological approach is required to integrate information obtained with number of activity related to surrogate signal from single units to investigate fluctuations in neural activity. Thus advanced MRI and PET preclinical imaging could provide a key to personalized medicine for the treatment of neurocognitive disorders.
Image Contributed by: Puja Panwar Hazari, A.K. Mishra. *INMAS, New Delhi*



Infection imaging using 68Ga-NOTA-UBI (Product Developed by RPhD, BARC,Mumbai)

^{68}Ga-NOTA-UBI (29-41) imaging done in a 56 year old patient with suspected infective spondylodiscitis. Sagittal images demonstrate increased tracer uptake at the L2- L3 intervertebral disc space, which was confirmed to be of Tuberculous etiogy on HPE evaluation.Indigenous Developed product by RPhD, BARC, Mumbai

Image contributed by: Archana Mukherjee. *Radiopharmaceutical division , BARC , Mumbai*
Imaging done at: *KMCH, Coimbatore.*

Designed and Edited by: **Prof BR Mittal** (Dean-ICNM & Editor-In-Chief IJNM) & Ankit Watts (Joint Secretory- ICNM)

Special Assistance by- **Dr Harmandeep Singh**