

DEPARTMENT OF NUCLEAR MEDICINE

In the year 2021, the Department of Nuclear Medicine and Molecular Imaging, MPMCC and HBCH set multiple new milestones. With the commencement of a new gamma camera, gates were opened to a whole new spectrum of diagnostic tests that are now available:

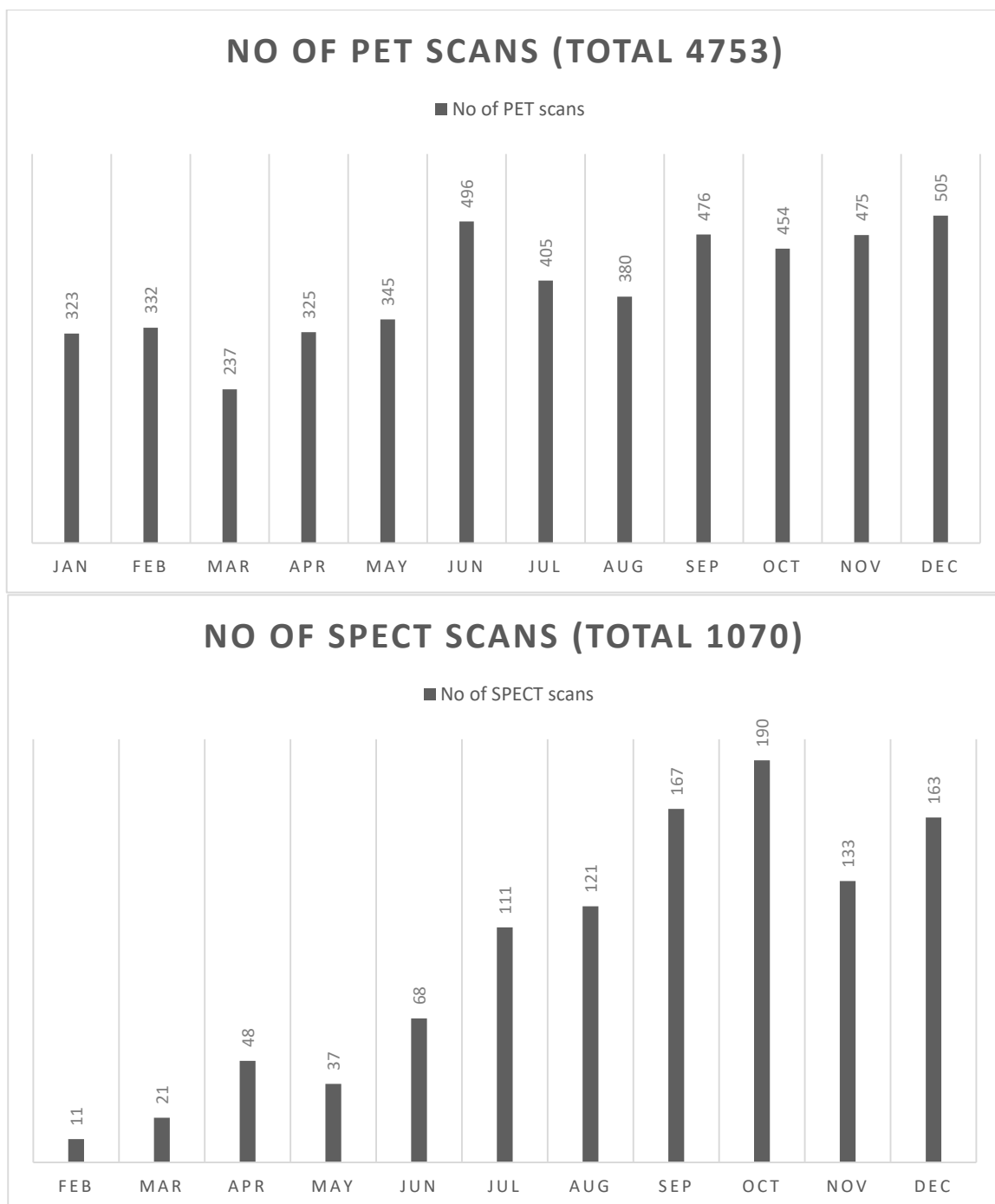
- Imaging and quantitative tests such as estimation of GFR using gamma camera and MUGA imaging for evaluation of cardiac ejection fraction was made available for pre and post chemotherapy patient assessment.
- MDP bone scan was introduced for disease staging.
- In collaboration with breast DMG, sentinel node imaging was introduced with close communication between nuclear medicine physicians and surgeons- a new standardised protocol was set for accurate localization of axillary nodes with fusion imaging made available for pre-surgery visualization of location of nodes (a first in TMC), nuclear medicine physicians are also present during nodal dissection to ensure gamma probes are optimally used and for recording of count statistics of radioactivity emitted from axillary nodes.
- In collaboration with thoracic DMG, lung perfusion imaging was introduced for accurate prediction of post pneumonectomy lung function.
- In collaboration with pediatric DMG, MIBG imaging was introduced for staging of neuroblastoma. MIBG can also be used for evaluation of paraganglioma and pheochromocytoma.
- In collaboration with Urology DMG, Tc-HYNIC-PSMA was introduced, for the first time in TMC. Fusion imaging was set as a standard protocol for SPECT/CECT imaging.
- In collaboration with GI and Thoracic DMG, Tc-HYNIC-TOC was introduced for SSTR imaging, useful in accurate staging of SSTR expressing neoplasms. Just like Tc-HYNIC-PSMA imaging, a new protocol was standardized with fusion imaging available for review by referring physicians and surgeons via online PACS viewer.

The Department has experienced a never before increase in patient footfall. Besides starting multiple new diagnostic tests, focus was set on increasing capacity for FDG PET/CT imaging as well. By creating a new logistical pathway, patient capacity was gradually increased to nearly ~500 scan per month to help in reducing patient waiting lists and allowing timely imaging for accurate staging.

Communication with clinicians was encouraged with Nuclear Medicine physicians visiting different OPDs to increase awareness about the new diagnostic modalities and explaining the optimal indications for the same. Regular participation in Joint Clinics (JC) was also undertaken. Dept of Nuclear medicine increased its participation in pediatric JCs which is now being held almost 3 times

a week with different case subdivisions. There was regularization of Thoracic JCs which was made possible because of close collaboration between surgery, radiotherapy and Nuclear Medicine. General bilateral communication with live feedback has always been emphasized for precise reporting.

After receiving regulatory clearance from AERB, a new 2 bedded therapy ward was commissioned. In collaboration with Head Neck DMG first thyroid cancer patients were undertaken for high dose radioactive iodine therapy. Other therapeutic options such as I-131 MIBG therapy for neuroblastoma, PSMA therapy for prostate cancer, and PRRT for neuroendocrine tumors have also been taken approval for.



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