

PP99 Positron Emission Tomography Combined With Computed Tomography (PET/CT) Using 11-C Methionine (11C-MET)

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Introduction: Positron emission tomography combined with computed tomography (PET/CT) using 11C-methionine (11C-MET) is used to detect astrocytomas and low-grade brain tumors, in the primary detection of all malignant and benign neoplasms of the central nervous system (CNS), and in order to monitor staging and evaluate the results of treatment.

Methods: To assess the clinical and economic effectiveness of PET/CT with the use of radiopharmaceutical drugs (RFLP) based on 11C-MET in the diagnosis of CNS neoplasms, a systematic review of literature by keywords in the Pubmed/MEDLINE database was conducted. The search result was 218 publications. The analysis included 21 publications that met the search criteria, including three meta-analyses and six systematic literature reviews.

Results: Diagnostic efficacy in distinguishing gliomas of high and low malignancy has moderate diagnostic accuracy (combined sensitivity and specificity were 80% and 72%, respectively), but higher sensitivity compared to Fludeoxyglucose F18 (18F-FDG). PET/CT with 11C-MET demonstrated good diagnostic value in detecting brain tumor recurrence (combined sensitivity and specificity of 92% and 87%, respectively) compared with 18F-FDG.

Conclusions: PET/CT diagnostics of CNS neoplasms using the drug 11C-MET is an innovative technology with greater specificity and sensitivity than 18F-FDG, positively influences the subsequent surgery plan and identifies tumors previously undetermined by magnetic resonance imaging (MRI), CT or PET/CT with 18F-FDG.

PP101 Clinical And Economic Impact Of Flushing Vascular Access Devices With Pre-filled versus Manually-Prepared Saline Flush Syringes In Korea

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Introduction: Around 90 percent of hospitalized patients require vascular access devices (VADs) during hospitalization to administer fluids, medications and facilitate blood transfusions. After insertion, it is essential to maintain VADs to achieve optimal dwell time and reduce complications. Flushing of VADs is an integral part of catheter maintenance practices. With increasing cost burden on healthcare systems and nursing shortages, it is crucial to use time-and cost-saving technologies such as pre-filled flush syringes for common procedures namely VAD maintenance. This study aims to compare the clinical and economic impact of using pre-filled saline syringes versus manually-prepared saline syringes for flushing VADs in Korea.

Methods: A budget impact analysis was developed using Microsoft Excel to estimate the annual clinical and economic impact of pre-filled saline syringes and a base case scenario of flushing 100,000 VADs was modeled. Clinical impact was estimated for peripheral intravenous catheter (PIVC) failure, central line-associated bloodstream infections (CLABSIs), central line occlusion and nurse time. Economic impact was estimated for costs associated with flushing materials, additional length of stay (LOS) due to CLABSI, VAD replacement, and nurse-time. Global and local data sources were used for inputs. Assumptions include: (i) Distribution of 95 percent peripheral and 5 percent central VADs; (ii) 50 percent peripheral and 50 percent central VADs on intermittent therapy; and (iii) 3 flushes/catheter-day.

Results: Over a one-year timeframe, the model estimated 3,344 fewer PIVC failures, 15 fewer CLABSIs and 157 fewer occlusions with adoption of pre-filled saline syringes. Nurse time was reduced by 3,465 hours. Potential net annual savings from lower device cost, reduced complications, shortened LOS and increased nurse efficiency were estimated to be KRW23.7 million (USD178,957).

Conclusions: Using pre-filled saline syringes instead of manually-prepared syringes for flushing VADs may result in fewer complications, lower VAD utilization, nurse time saving and cost savings in Korea. This can potentially help improve patient outcomes, relieve nurses' stress to some extent and help healthcare decision-makers to reallocate these cost savings to other life-saving technologies.

PP102 Impact Of Placing Peripherally Inserted Central Catheters At Patient Bedside Versus Radiology Suite In A Private Australian Hospital

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Introduction: A peripherally inserted central catheter (PICC) is an important vascular access device to administer certain intravenous (IV) therapies, which is traditionally placed using fluoroscopy in radiology suites. With advancing tip-confirmation technology, PICCs can be placed at the patient bedside by nurses, without any delays arising from wait time for the radiology suite or the need of