

ABSTRACT

Research Project: Clinical Indications and Economic Evaluation of PET/CT

Objectives: 1. To determine the evidence-based clinical indications of PET/CT in oncology, neurology and cardiology

2. To systematically review the economic evaluation of PET/CT

Methods: A systematic review and meta-analysis of literatures published in MEDLINE (PUBMED), EMBASE and SCOPUS during 1 January 2005 – 31 March 2015 were done to primarily identify the clinical indications of PET/CT. Whereas, EBSCOhost database was used for the systematic literature review of PET/CT economic evaluation, particularly in the 10 most common cancer in Thailand, including oncology, neurology and cardiology.

Results: From the review of 2,154 literatures for the clinical indications of PET/CT, there were the evidence-based utility of PET/CT in suspected colorectal cancer recurrence, pre-operative evaluation of recurrent colorectal cancer, diagnosis of lung nodule, initial staging of lung cancer, radiotherapy planning in lung cancer, initial staging of Hodgkin's lymphoma, interim PET/CT in Hodgkin's lymphoma, restaging after completion of treatment in Hodgkin's lymphoma and DLBCL, radiotherapy planning in esophageal cancer, diagnosis of atypical Alzheimer's disease, identification of epileptogenic focus in refractory focal seizure, diagnosis of coronary artery disease and myocardial viability evaluation. Moreover, the additional review of 7 literatures revealed the cost-effectiveness of PET/CT strategies or PET/CT economic evaluation; lung cancer (5 papers), lymphoma (1 paper), and ovarian cancer (2 papers), compared to conventional approaches or other imaging strategies.

Conclusions: Significantly, PET/CT yields the evidence-based clinical utility with beneficial indications in oncology, neurology and cardiology. Despite little number of literatures on the economic evaluation of PET/CT, the cost-effectiveness of PET/CT or PET/CT strategies could advantageously provide most clinical benefits and reimbursement to both the government and patients as a whole.

For more information: <http://www.hitap.net/documents/171357>