

#### **Service Priorities and Programmes**

#### **Electronic Presentations**

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## **Clinical impact of FDG PET/CT in preoperative assessment of patients with suspected non-small-cell lung cancer: Local experience in a single centre** *Kung BT(1), Szeto LT(1), Hui YH(1), Wu KK(1), Kong MO(1), Wong CP(1), AuYong TK(1), Tong CM(1)* (1)Nuclear Medicine Unit, Queen Elizabeth Hospital

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## Introduction

Under the Hospital Authority (HA) PET Standard Service introduced since April 2012, clinically operable non-small-cell lung cancer (NSCLC) patients would be exempted from charges for PET/CT for pre-operative staging.

#### **Objectives**

To evaluate the clinical impact and efficacy of FDG PET/CT on management decisions of patients suffered from clinically operable NSCLC under the HA PET Standard Service.

#### **Methodology**

A retrospective review of 186 potentially operable NSCLC patients who underwent whole-body PET/CT examination in QEH PET Centre, from June 2012 to November 2012, was performed. All patients were referred from the cardiothoracic surgeons or chest physicians under the HA PET Standard Service. They were further analyzed via the electronic patient record (ePR) system for relevant findings. Overall change in management was assigned if patient avoided unnecessary surgery due to disease upstaging or downstaging; patient underwent further neoadjuvant treatment or investigation before the curative surgery. Clinical impact of PET/CT on subsequent management of patients was evaluated.

# <u>Result</u>

Of all 186 subjects, 65 (34.9%) patients became inoperable after PET/CT due to disease upstaging. Remaining121 (65.1%) patients remained operable after PET/CT examination. 19 out of 121 potentially operable patients did not receive curative surgery eventually, as 11 patients had poor clinical condition and 8 patients refused surgery. Therefore, 102 out of 186 (54.8%) patients received curative operation following PET/CT. Among them, 97 patients (95%) proceeded to surgery without

further neoadjuvant treatment or other investigatory procedure. Of the remaining 5 patients, 4 (3.9%) received neoadjuvant treatment and 1 (1.0%) had further investigation after PET/CT. In summary, 70 of the 186 (37.6%) patients had change in management plan after PET/CT study. A subgroup of 141 (75.8%) patients underwent dedicated CT thorax before PET/CT examination. 47 (33.3%) patients had avoided futile surgery due to disease upstaging. 51 of 141 (36.2%) patients had change in management plan after PET/CT. In conclusion, PET/CT had great clinical impact, leading to significant reduction of futile curative surgery, including those with prior dedicated CT thorax examination.