Overuse of PET to monitor lung or oesophageal cancers

An observational study has found that hospitals in the USA vary widely in the use of positron emission tomography (PET) scans to detect recurrence in patients who are asymptomatic after treatment for lung or oesophageal cancer; furthermore, increasing PET use did not improve 2-year survival of patients.

Investigators analysed Medicare data for two cohorts of patients identified from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) database: 97 152 patients with primary lung cancer (from 859 hospitals) and 4446 patients with primary oesophageal cancer (from 215 hospitals), all diagnosed between 2005 and 2009 and followed up through 2011. Hospitals were sorted into five groups according to PET use for recurrence detection; average use ranged from 0·05 (SD 0·04) to 0·70 (0·44) scans per person per year for the lung cancer cohort, and from 0·12 (SD 0·06) to 0·97 (0·29) scans per person per year for the oesophageal cancer cohort. However, average 2-year survival was not significantly different for lung cancer patients receiving follow-up care from hospitals with the highest (28·8% [SD 7·2]) versus the lowest (29·0% [SD 12·1]) PET use (p=0·66); similar results were recorded for patients with oesophageal cancer (30·3% [SD 5·9] in hospitals with highest PET use *vs* 28·4% [7·2] in those with lowest use; p=0·55).

Lead author Mark A Healy (University of Michigan, Ann Arbor, MI, USA) said: "we found that there was eight-fold variation in use of these scans across US hospitals, with no difference in long-term survival, whether the patient went to a high-usage hospital versus low-usage hospital". Healy summarised: "physicians or providers shouldn't order a PET scan in asymptomatic patients, who have already completed their cancer treatment, without ordering another low-cost scan first".

Mark A Socinski (University of Pittsburgh Medical Center, Pittsburgh, PA, USA) commented: "PET is a very helpful tool, but as is true for all tools, use it for the right job and don't use it inappropriately". He added: "this study was done in early stage lung and oesophageal cancer and didn't show a benefit in terms of improving survival. PET is often used in the setting of metastatic disease, in attempting to evaluate effect of therapy. I don't know if there's a defined role for PET for evaluating response to treatment, and these new data would suggest we should not be doing it in the advanced disease setting either".

Judith A Gilbert

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For the **study by Healy and colleagues** see *J Natl Cancer Inst* 2016; published online Feb 22. https://jnci.oxfordjournals.org/content/108/7/djv429.full