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Titel des Beitrags: Cost-effectiveness of hybrid PET/CT for staging of non-small cell lung cancer.

Abstract: Although the diagnostic effectiveness of integrated PET/CT for staging of non-small cell lung cancer (NSCLC) has already been proven, it remains to be determined if tumor staging with combined metabolic and anatomic imaging is also cost-effective. The objective of this study was to evaluate from a payers' perspective the cost-effectiveness of staging NSCLC with CT alone (representing the mainstay diagnostic test) and with integrated PET/CT. The study is based on 172 NSCLC patients from a prospective clinical study who underwent diagnostic, contrast-enhanced helical CT and integrated PET/CT. Imaging was performed at the University Hospital Ulm between May 2002 and December 2004. To calculate treatment costs, we differentiated among cost for diagnosis, cost for nonsurgical treatment according to the clinical diagnosis, and cost for surgical procedures according to the clinical tumor stage. The diagnostic effectiveness in terms of correct TNM staging was 40% (31/77) for CT alone and 60% (46/77) for PET/CT. For the assessment of resectability (tumor stages Ia-IIa vs. IIb-IV), 65 of 77 patients (84%) were staged correctly by PET/CT (CT alone, 70% [54/77]). The incremental cost-effectiveness ratios per correctly staged patient were $3,508 for PET/CT versus CT alone. The incremental cost-effectiveness ratios per
quality-adjusted life year gained were $79,878 for PET/CT vs. CT alone, decreasing to $69,563 assuming a reduced loss of utility (0.10 quality-adjusted life years) due to surgical morbidity. Cost-effectiveness analyses showed that costs for PET/CT are within the commonly accepted range for diagnostic tests or therapies. Therefore, reimbursement of PET/CT for NSCLC staging can be also recommended from an economic point of view.