primary studies - published, non RCT

18F-fluorodeoxyglucose-PET/CT imaging of lungs in patients with cystic fibrosis.

Code: PM19696124 **Year:** 2009 **Date:** 2009 **Author:** Klein M

Study design (if review, criteria of inclusion for studies)

non-randomized study

Participants

20 patients with CF (age range, 14 to 54 years); 7 of 20 patients underwent repeat PET/CT scans during and after acute exacerbations.

Interventions

PET/CT scans

Outcome measures

The results were compared with clinical information and with images from eight control subjects with no known lung disease.

Main results

Foci of enhanced activity were observed on FDG-PET scans of patients with CF but not those of control subjects. Higher focal activity (standardized uptake value, > 3.0) was seen during disease exacerbation and infection. Coregistered CT scan images assisted in the localization of PET foci and showed corresponding CT scan findings, with many additional findings on CT scans that were not seen on PET scans. Foci seen on high-intensity PET scans during exacerbations disappeared after antibiotic therapy and the resolution of exacerbation, while corresponding CT scan findings remained unchanged.

Authors' conclusions

PET/CT imaging demonstrated the presence of foci of enhanced uptake that may reflect active focal infectious or inflammatory processes in the lungs. These foci can be cleared with antibiotic therapy. Further studies are needed to validate these results and to determine whether FDG-PET/CT scanning can predict the nature/severity of disease in patients with CF.

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See also

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Keywords

18-FDG PET; Biomarker; diagnostic procedures; non pharmacological intervention - diagn; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections;