



Room: Hall Z

P483 Clinical relevance of incidental colonic uptake ^{18}F -FDG PET/CT. Correlation with colonoscopy and histopathology.

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Aim: Colorectal cancer is the second leading cause of cancer related deaths in the western world, and may exist synchronously or metachronously with other malignant tumors. The ability of ^{18}F -FDG PET/CT to detect a wide range of colonic lesions depends on the fact that most of these neoplasias have a strongly increased uptake of ^{18}F -FDG. Several studies have shown that whole-body PET/CT imaging may identify unexpected foci of hypermetabolism within the colon, many of which have clinical significance. The main purpose of this study was to determine the prevalence and clinical importance of unexpected abnormal foci of hypermetabolism at ^{18}F -FDG PET/CT studies performed in our institution during a five year period. **Materials and Methods:** We retrospectively analyzed 5545 consecutive patients who underwent a ^{18}F -FDG PET/CT scan for evaluation of a malignant disease between January 2005 and January 2010. Patients with known or suspected colorectal or occult cancer have been excluded. PET images were obtained 45 to 60 minutes after ^{18}F -FDG injection and low dose CT images were used for attenuation correction and anatomic mapping. Co-registered PET/CT images were obtained for analysis. Incidental ^{18}F -FDG PET/CT findings were correlated with colonoscopic and histopathologic results. ^{18}F -FDG uptake intensity was quantified using SUVmax values. **Results:** Of the 5545 patients evaluated, 56 (31 male; 25 female, mean age 65 ± 7.5 years) displayed incidentally ^{18}F -FDG colonic foci, representing a prevalence of about 1%. Correlative colonoscopic and histopathologic findings were available in 16 (28.6%) of these 56 patients. In the 16 patients we found 18 ^{18}F -FDG colonic foci. Of these 18 abnormalities, 2 were adenocarcinoma (mean SUVmax=24.8), 1 was high grade dysplasia adenoma (mean SUVmax=18.6), 9 were low grade dysplasia adenomas (mean SUVmax=13.5), 5 were benign lesions (mean SUVmax=8.1) and 1 had no colonic abnormality detected (false positive). Two other low grade dysplasia adenomas were detected on colonoscopy but not on the ^{18}F -FDG PET/CT. An apparent positive correlation between ^{18}F -FDG uptake intensity and the severity of the lesion was observed. **Conclusion:** Although incidental colonic lesions were detected in only about 1% of our patients, they were associated with a substantial risk of an underlying cancerous or precancerous lesion. Our results emphasize the need for follow-up of these abnormalities because the majority of the lesions studied represented either a malignant or a premalignant neoplasm, which was not clinically apparent.