18F-FDG PET/CT Outperforms Contrast Enhanced CT in the Diagnosis of Peritoneal Metastases from Ovarian Tumors.

Tawakol A Abdelhafez YG Osama AA Hamada E El-Refaei Sh

Abstract:

Objectives: To evaluate the diagnostic performance of 18F-Flurideoxyglucose positron emission tomography/ computed tomography in comparison to contrast enhanced computed tomography alone in the detection of peritoneal metastases after initial treatment of malignant ovarian tumors. Patients and Methods: The study prospectively recruited 111 patients with clinical suspicion of ovarian tumor recurrence. Each patient underwent 18FFDG PET/CT and Ce-CT scans in the same day. Study-based analyses for a total of 136 scans were evaluated. Studies were read independently by one experienced nuclear medicine physician and one experienced radiologist. A four-point score (score 0= definitely benign, score 1 = probably benign, score 2= probably malignant and score 3= definitely malignant) used to assess the presence or absence of peritoneal metastases. The final diagnosis of peritoneal disease status was made on the basis of subsequent follow-up by 18F-FDG PET/CT, conventional imaging (CT/MRI) or histopathology whenever possible. Results: Of the 136 studies evaluated, 75 (55%) studies had peritoneal disease and 61 (45%) studies were free based on final diagnosis. 18F-FDG PET/CT & Ce-CT had sensitivity, specificity and accuracy of 96% vs 69%, 100% vs 85%, and 98% vs 76%; respectively. 18F-FDG PET/CT was significantly more sensitive, specific and accurate compared to Ce-CT with P-values of

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