Case of the Month—January 2006

FDG-PET for Metastatic Colon Cancer

History
This case involves an 82-year-old female who presented with massive rectal bleeding. A mass was found in her right transverse colon by colonoscopy. Pre-op CT revealed a soft tissue mass in the presacral area (arrow, CT Figure 1). The liver was reported as unremarkable on CT scan (CT Figures 2 and 3). The patient underwent colectomy and eight out of nine nodes were positive for metastases. A whole-body PET-FDG scan was requested for further evaluation.

Findings
FDG-PET demonstrated a focus of intense uptake corresponding to the presacral mass seen on CT (PET Figure 1). This is likely related to metastasis. In addition, there are at least two foci of intense uptake seen in the liver, consistent with metastases (PET Figures 2 and 3). In retrospect, and in light of the PET, there were subtle low attenuation lesions that were not easily seen on CT (arrows, CT Figures 2 and 3).

How Did PET Help?
In this case FDG PET detected liver metastases that were not easily seen on CT.

Discussion
Positron emission tomography is more sensitive than computed tomography (CT) for the detection of metastatic or recurrent colorectal cancer and may improve clinical management in one-quarter of cases. The sensitivity of PET in detecting hepatic metastasis is higher than for CT. The sensitivity of PET in detecting extrahepatic metastases exclusive of locoregional recurrence is higher than the sensitivity of computed tomography and other conventional diagnostic studies. PET altered clinical management in a beneficial manner in 26 percent of cases when compared with evaluation by computed tomography plus other conventional diagnostic studies. The limitation of PET is that it is less sensitive for lesions smaller than one centimeter.


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