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PET/CT Scans Effective In Locating Pelvic Recurrences of Rectal Cancer

Results of a recent trial published in the journal *Radiology* indicate that the combined use of PET scans and CT scans is an effective method for detecting pelvic recurrences of rectal cancer.

Rectal cancer is a malignancy that arises from the tissues of the rectum. The rectum is the last 8-10 inches of the colon. Standard treatment of rectal cancer involves surgery and often results in apparent curative resection (surgical removal of all evident cancer). Despite apparently curative surgery, rectal cancer recurs locally in up to 25% of patients.

PET scans (positron emission tomography) are often used in the diagnosis of rectal cancer to detect additional sites of cancer that may be too small to be seen with a CT scan. A PET scan is a diagnostic imaging test that shows chemical and physiological changes related to metabolism. This is important because these functional changes often occur before structural changes in tissues. PET images may therefore show abnormalities long before they would be revealed by X-ray, CT scan or MRI.

During a PET scan, a patient will receive an injection of a radioactive substance, which is then taken up by cancer cells, thereby allowing the radiologist to visualize areas of increased activity.

A CT scan (computed tomography) is another type of diagnostic imaging test that uses special X-ray equipment to provide cross-section pictures of the organs and tissues of the body. In some situations, CT scans and PET scans may be used in combination in order to achieve greater sensitivity.

In this recent trial, 62 patients who had previously undergone abdominal surgery as part of their treatment were referred for PET/CT scanning for evaluation of pelvic recurrences. In total, 81 pelvic sites were found, of which 44 were malignant. **(Over)**



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Although displaced pelvic organs as the result of surgery did produce some false-positive results, researchers found that PET/CT scans were in the range of 90% specific and sensitive for locating malignant pelvic recurrences.

Based on the results of this study, the researchers concluded that PET/CT scans are effective for locating pelvic recurrences of rectal cancer.

Reference: Einat Even-Sapir, Yoav P, Hedva L, et al. Detection of recurrence in patients with rectal cancer: PET/CT after abdominoperineal or anterior resection. *Radiology*. 2004; 232:815-822.



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