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Does positron emission tomography change management in primary rectal cancer? A prospective assessment.

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PURPOSE: The influence of positron emission tomography in the management of recurrent rectal cancer is well established but its role in primary rectal cancer remains uncertain. This study therefore prospectively assesses the impact of position emission tomography scanning on the management of primary rectal cancer. METHODS: Forty-six patients with advanced primary rectal cancer referred for consideration of adjuvant preoperative therapy underwent position emission tomography scanning. The referring physicians prospectively recorded each patient's stage following conventional imaging and the proposed treatment plan prior to position emission tomography scanning. This was then compared with subsequent stage and actual management implemented, and the appropriateness of position emission tomography-induced changes was noted by subsequent clinical follow-up. RESULTS: The surgical management of 36 of 46 patients (78 percent) was unchanged as a result of position emission tomography, even though position emission tomography upstaged disease in 3 of 36 cases (8 percent) and downstaged disease in 5 of 36 cases (14 percent). In 8 of 46 cases (17 percent), management was altered because of the position emission tomography scan findings, including 6 cases (13 percent) in which surgery was cancelled and 2 other cases (4 percent) in which the radiotherapy field was changed. Where available, follow-up confirmed the appropriateness of position emission tomography-induced management change in each case. Two patients had a change in therapy independent of the position emission tomography scan due to clinical circumstances. Overall tumor stage was changed following position emission tomography in 18 of 46 patients (39 percent). CONCLUSION: Position emission tomography scanning appears to accurately change the stage or appropriately alter the therapy of almost a third of patients with advanced primary rectal cancer. In view of this, we suggest that position emission tomography scanning be considered part of standard workup for such patients, particularly if neoadjuvant chemoradiation is being considered as part of primary management.