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The role of integrated positron emission tomography-computed tomography (pet-ct) imaging system in colorectal carcinoma

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Colorectal carcinoma is an important cause of worldwide morbidity from cancer death. In the past decade, integrated positron emission tomography - computed tomography (PET-CT) imaging system has gained wide access in the clinical management of most cancer patients including colorectal carcinoma (CRC). The discovery of 2-deoxy-2- (¹⁸F) fluoro-D-glucose (¹⁸F-FDG), a glucose analogue and a powerful tracer, shared the success story of PET-CT imaging in cancer, expanding its clinical role in a variety of cancer management. Combined functional and morphological diagnostic information from the system improved staging accuracy by increasing the sensitivity and specificity in identifying cancerous lesions. Although its role in colorectal carcinoma is not yet established following initial diagnosis, studies have shown that it may impart influence in the course of treatment. ¹⁸F-FDG PET-CT is a recognized clinical method in detecting metastases (mCRC) and local recurrence (rCRC) through its capability in differentiating tumor tissue metabolism. Despite being a powerful tool in distinguishing candidates with operable lesions for curative from palliative intent, understanding the limitations can improve its use effectively thus clinical outcome. This review will highlight the established and emerging role of integrated positron emission tomography - computed tomography (PET-CT) imaging system in the clinical management of colorectal carcinoma.

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