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The role of integrated Positron Emission Tomography - Computed Tomography (PET-CT) imaging system in colorectal carcinoma

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Abstract

Colorectal carcinoma is an important cause of world wide morbidity from cancer death. In the past decade, Integrated Positron Emission Tomography - Computed Tomography (PET-CT) imaging system has gain wide access in the clinical management of most cancer patients including colorectal carcinoma (CRC). The discovery of 2-deoxy-2- (^{18}F) fluoro-D-glucose (^{18}F-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. ^{18}F-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.