Combined Positron-emission Tomography–Computed Tomography: Merging Form with Function

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ABSTRACT

Combined positron-emission tomography–computed tomography is becoming a widely used imaging technique in nuclear medicine and nuclear radiology. Its unique dual functional-anatomical imaging capacity is highly complementary to conventional imaging, and it has become an integral part of the multidisciplinary clinical management of cancer in Hong Kong. The clinical value, efficacy, limitations, and cost-effectiveness of this technology are important pieces of information for referring physicians. This article briefly describes the basis of positron-emission tomography and combined positron-emission tomography–computed tomography, and reviews the current consensus on their clinical application in the diagnosis and treatment of cancer patients.

Key Words: Fluorodeoxyglucose F18; Neoplasm staging; Radionuclide imaging; Tomography, X-ray computed