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Nuclear medicine as a unique diagnostic medical imaging

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Nuclear medicine is a new weapon against cancer cases for scanning as well as for treatment. While CT uses X-rays to deliver cross-sectional anatomical images PET spots cancerous cell by making visible their metabolism through tracers (radioactively labeled substances the patient is injected with). In the last fifteen years PET/CT has been successfully employed to assess how patients respond to chemo- and radiotherapy. Before treatment starts, patients undergo a PET examination in order to evaluate the malignancy and the extent of the tumor by measuring the tissue's uptake of the radioactive tracer in relation to the administered dose and the body weight. After chemo- or radiotherapy- or a combination of both – a second PET examination is performed in order to evaluate the treatment outcome. The amount of tracer substance that can still be visualized now informs on how much the metabolic activity of the tumor as well as the extent of the cancerous areas have been reduced. The conventional imaging (CT) techniques, although very accurate in staging, have a low specificity in the assessment of therapy response in oncology. By contrast, PET allows to safely and precisely assessing the efficacy of chemotherapeutic or radio-therapeutic treatment in a non-invasive manner.

Biography

Fakir Mohan Debta has completed his B.D.S from S.C.B. Dental College & Hospital, Cuttack. His post graduation study (M.D.S.) completed from G.D.C.H., Ahmedabad, India. He is presently working as an assistant professor in S.C.B. dental college in department of Oral medicine & radiology. His various study and case reports has been published in reputed national & international journals and he is active life member of their association IAOMR.

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