

3rd Global summit on

ONCOLOGY AND CANCER

May 06-07, 2019 Tokyo, Japan



Vinay Sharma

*Charlotte Maxeke Johannesburg Academic Hospital, South Africa**University of the Witwatersrand-Johannesburg, South Africa*

How will MRI impact on future of radiation oncology?

State of art radiotherapy has ability to deliver highly conformal doses of radiation that can target large tumors and avoid normal tissues with high precision; however, the limitations of conventional online imaging hinder this technology from achieving its true potential. Advances in MR imaging allow non-invasive assessment of morphological, biological and functional process in tissue and therefore, may provide tools for early assessment and prediction of tumors and normal tissue responses to irradiation. Imaging and pathological information combined from a larger patient cohort can be used to develop a predictive model. Superior soft tissue visualization combined with the MR Guided Radiation Therapy (MRgRT) ability to dynamically adjust the treatment plan and or gate the treatment delivery to account for inter/intra-fractional anatomical changes offers great promise to further enhance treatment precision for abdominal and thoracic anatomical sites. Tumors are not uniform within a volume, which may be responsible for the variable outcomes from the same therapy among patients. Tumors heterogeneity sub regions (habitats) shown by spatial distributions of MR images define distinct physiologies such as viable cells, necrosis and oedema and could provide information for therapeutic decision support. Advances in MRI can also assist in obtaining images that reflects underlying pathophysiology and that these relationships can be revealed via. quantitative image analyses.

Biography

Vinay Sharma is currently working as Head of Department of Radiation Oncology at Charlotte Maxeke Johannesburg Academic Hospital, University of Witwatersrand. He has published over 150 papers in in national and international peer reviewed journals as well as book chapters. His main research interest is in breast cancers as well as gynecological malignancies.

vinay.sharma@wits.ac.za

Notes: