

Stereotactic body radiotherapy in liver metastasis

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Stereotactic Body Radiation Therapy (SBRT) also known as stereotactic ablative Radiotherapy (SABR) is a newer modality of delivering radiation therapy for many primary and secondary tumors, with good results. Liver metastases from colorectal, breast and lung cancer are most common. Studies focusing on SBRT for liver metastases from a single primary tumor type colorectal cancer have been published. Regardless of age, patients should have good performance status (Eastern Cooperative Oncology Group 0-1 or Karnofsky >70), with absent or stable extra hepatic disease and adequate hepatic volume and function. Number of metastasis should be less than three and size less than 6 cm. Prescribed dose is generally very high in range of 30 to 60 Gy in three fractions. The toxicity profile is generally low with a G3 toxicity rate of 1-10% and the incidence of Radiation Induced Liver disease less than 1%. The most common G2 toxicities included a transient hepatic enzyme levels increase over three months of SBRT and gastrointestinal, soft-tissue and bone complications, related to lesions close to the duodenum, bowel, skin and ribs. Duodenal ulceration and intestinal perforation is observed in patients with maximum doses greater than 30 Gy in three fractions to the duodenum and bowel. In few patients, non-traumatic rib fractures were experienced for maximum doses of 51.8 Gy and 66.2 Gy in six fractions to 0.5 cm³ of rib. Local control rates varied from 70% to 100% at one year and 60% to 90% at two years and correlated to lesion size <3 cm.

Biography

Neeraj Jain is an Associate Professor in Radiation Oncology at Sri Guru Ram Das University of Health Sciences, Amritsar. He is an Eminent Radiation Oncologist and participated in numerous national and international conferences and presented papers. He is the Vice Chairman of Indian College of Radiation Oncologists (ICRO). He is well versed in modern Radiotherapy techniques.

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