

Radiotherapy with curative intent

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Lecture : External beam radiotherapy (EBRT) is a well-established cancer modality in most major solid cancers. In hepatocellular carcinoma (HCC), its role hasn't been recognized enough due to lack of high level evidence. However, its efficacy has been witnessed by soaring number of papers reporting beneficial clinical outcome as well as increasing level of evidence. Consequently major treatment guidelines start to either consider EBRT as one of the treatment options (NCCN guideline 2018) or just mention (AASLD guideline 2017) depending on disease status.

EBRT can be administered in various ways depending tumor stage as well as treatment aim;

For small tumors in BCLC early stage, radiotherapy can be given in curative aim. High dose focal radiation is delivered in short term, which is referred to stereotactic ablative radiotherapy (SABR) or stereotactic body radiotherapy (SBRT). It needs precision technology involving image-guided beam delivery (image guided radiotherapy) as well as motion control.

For HCC beyond early stage, EBRT can be given using conventional or hypo-fractionation scheme, which is adopting preferably combination scheme with other modality, either as an additional treatment for HCCs showing incomplete result to TACE or as a combination of EBRT and vascular therapy for HCC accompanying vascular invasion. Although HCC beyond the early stage is considered ineligible for curative resection, EBRT-based combination approach can achieve substantial down-staging or down-sizing, so that subsequent curative resection could be underwent.

In conclusion, radiation therapy can be adopted as a curative intent in management of HCC either by ablative radiotherapy for early stage HCC or by combination approach converting substantial number of patients to resectable ones in HCC beyond the early stage.