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Implementing Combined Approach With Radiotherapy In Surgical Strategy For Advanced HCC

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Lecture : According to current guidelines, systemic therapy is recommended as a sole modality in management of advanced hepatocellular carcinoma (HCC). However, surgical resection has been performed not infrequently in the real world practice globally. Substantial oncologic outcome of surgical resection has also been documented through several studies involving recent multicenter cohort study from Japan. In this context, 2 major issues remain to be solved; first, patient selection with R0 resectability and second, more importantly, preserving hepatic functional status by avoiding post resection hepatic failure. Considering diverse spectrum of advanced HCC, percentage of R0 resectability, which can be represented as a liver-confined single tumor with vascular invasion in lesser degree, seems quite limited. To expand resectability further to HCCs with overt major vascular invasion, intrahepatic metastasis, or huge size of tumor, we need an effective preoperative therapeutic strategy. It is noteworthy that advanced HCCs with vascular invasion frequently develops early onset of intra- or extrahepatic metastasis, suggesting urgent need for not a single but a combined approach. Liver-directed (LD) combined radiotherapy, either with transarterial chemoembolization (TACE+EBRT), or with concurrent hepatic arterial infusional chemotherapy (LDCCRT), has shown its efficacy in improving overall survival. In particular, LDCCRT produced enhanced resectability accompanied by substantial down staging, which has been proven in resected patients. Patients who converted resectable by LDCCRT produced better oncologic outcome comparing to those underwent upfront surgical resection, suggesting role of LDCCRT suppressing micrometastasis in advanced HCC. This notion seems in good agreement with a recent phase III study reporting significantly higher survival in patients given preop neoadjuvant EBRT compared to upfront surgery. In addition to cytoreductive role, EBRT can also induce compensating hypertrophy of liver, augmenting future remnant liver. To achieve this goal there needs a smart preplanning of EBRT beam designing. It can be concluded that combined approach with radiotherapy needs more frequent application to achieve successful resection in advanced HCC.