Commentary

Beyond management to conquer life-threatening tumor thrombosis in hepatocellular carcinoma

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Hepatic vein tumor thrombus (HVTT), together with portal vein tumor thrombus (PVTT), is a major determinant of survival outcome in patients with advanced hepatocellular carcinoma (HCC). HVTT can be an oncologic emergency, especially when it invades beyond IVC into the right atrium, where it can cause sudden death from pulmonary embolism. Clinical studies using large numbers of patients are generally difficult in this relatively rare and urgent disease. In this context, the multicenter study conducted by Chen *et al.* is significant, albeit retrospective (1). They compared overall survival (OS) and recurrence-free survival (RFS) in 377 HCC patients with HVTT using propensity score matching (PSM), 82 with hepatectomy (LR) and 82 with intensity-modulated radiation therapy (IMRT). The results showed that the LR group was significantly higher than the IMRT group for both. This may be related to the fact that IMRT takes longer to show its effect, during which time fatal events may occur. On the other hand, when HVTT evolved into inferior vena cava tumor thrombus (IVCTT), IMRT showed a therapeutic contribution comparable to that of LR (1). This suggests that LR alone has limitations and alternative therapy is necessary when HCC has extrahepatic extension. The combination of IMRT with interventional radiology treatment, which is fast-acting and has excellent intrahepatic lesion control, may be a strong option, especially in elderly patients for whom radical LR is not easily indicated (2). Among local catheter-based therapies, hepatic intraarterial chemotherapy (HAIC) such as New FP with a suspension of powdered cisplatin mixed with Lipiodol, has demonstrated better control of advanced HCC confined within two hepatic segments and has been shown to be more effective than the molecular targeted agent sorafenib in treating patients with portal trunk tumor thrombus (Vp4)-positive HCC (3,4). Therefore, a combination of HAIC such as New FP and IMRT is expected to prolong the prognosis of HCC patients while avoiding oncol ogic emergencies that may arise from IVCTT complications. Recent advances in systemic therapy for unresectable advanced HCC have been remarkable, hopefully enhancing the therapeutic benefits of LR and IMRT, as well as TACE and radiofrequency ablation when in combination with or after those therapies. In particular, with the introduction of immune checkpoint inhibitors (ICIs), molecular targeted therapy for advanced HCC has undergone a paradigm change. According to the results of the IMbrave150 trial, atezolizumab plus bevacizumab demonstrated longer OS (12.9 months) than sorafenib (9.1 months) in patients with macrovascular invasion (5), and, therefore, the combination of LR, IMRT, and even HAIC with ICI-based systemic therapies may dramatically improve the prognosis of HVTT and PVTT patients in the future.

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