Treatment of Advanced Hepatocellular Carcinoma Using Interventional Radiology and Radiofrequency Ablation

Department of Gastroenterology and Hepatology, Kurume University Medical Center
Masatoshi Tanaka, M.D.

Identifying hepatocellular carcinoma (HCC) at an early stage is often associated with having better and radical treatment options for patients with small and asymptomatic tumors, however, treatment options for advanced HCC is still important because of the high recurrence rate of HCC after radical therapies and almost 50% of HCC patients newly diagnosed being advanced stage out of screening system for high risk group.

Advanced HCC patients are considered for any of the palliative options such as thermal ablation therapy (radiofrequency ablation, RFA), transarterial (chemo)–embolization (TAE/TACE) and hepatic arterial infusion chemotherapy(HAIC). Rationale backgrounds of these three identical therapies for advanced HCC are different, and indications are also different for various advanced stage of tumors such as multi-nodular HCC and infiltrative HCC with or without vascular invasion.

In brief, RFA is indicated treatment for nodular HCC up to 5 cm, and a reported local recurrence rate are less than 10% up 3 cm, and the rate is lower than TAE. TAE is the most widely indicated treatment for nodular and hyper-vascular HCC without vascular invasion, and the effective rate is around 60%. The combination of TAE and RFA will increase a treatment effect for nodular HCC larger than 3 cm in the diameter. HAIC is indicated treatment foe infiltrative HCC with vascular invasion and bi-lobular multinodular HCC (often intrahepatic metastasis) not indicating TAE, and the effective rate is around 30%. HAIC is a induction chemotherapy for such highly advanced HCC, and additional therapy such as TAE and /or RFA is sometimes needed for better prognosis of these patients.

In conclusion, adequate combination of these palliative options described above might be essential for the treatment of advanced HCC.