**Liver I - Updates in Theranostics in HCC**

## Multidisciplinary therapeutic modalities for HCC

Shu-Sen ZHENG

Hepatocellular carcinoma is assigned according to tumor stages, mainly including Barcelona Clinic Liver Cancer (BCLC) staging system, China liver cancer (CNLC) staging system and the Hong Kong Liver Cancer (HKLC) staging system. The treatment approach selection of HCC depends on tumor burden, liver function and performance status. Patients with low tumor burden should be treated with resection, ablation or transplantation, which depends on the liver function status. Patients with multinodular tumor and well preserved liver function could firstly receive chemoembolization and converted to surgical resection or transplantation. Patients with macrovascular invasion or extrahepatic metastasis are mainly treated with systemic therapies, such as tyrosine kinase inhibitors and immune checkpoint inhibitors. Surgical treatment, which includes both hepatic resection and liver transplantation, is considered as the priority of curative therapies for HCC. Patients with decompensated cirrhosis and damaged liver function are considered suitable for liver transplantation. The first selection criteria of liver transplantation for HCC was Milan Criteria, and then extended to UCSF criteria and Up-to-Seven criteria. Hangzhou criteria expand the current criteria by incorporating the morphological characteristics and the biological behavior, determined by a combination of AFP level and 18F-FDG uptake on PET-CT scan. The Long-term outcomes of liver transplantation are superior than resection and systemic therapies, which has a less than 20% recurrence rate and a 5-year survival of 72.5%. The therapeutic strategies of HCC has been growing, including developments in surgical techniques, locoregional therapies and systemic therapies.