

## Transplant Oncology I

### Peri-operative systemic therapy for hepatocellular carcinoma

Lunxiu QIN

Surgical treatment provides the best prognosis for selected patients with hepatocellular carcinoma (HCC). Recent rapid progress in systemic therapy including targeted therapeutic agents and immune checkpoint inhibitors (ICI) has brought new hope for those with advanced HCC. It has changed the indication for surgery and has the potential to decrease the risk of postoperative recurrence and prolonging survival.

Many studies have demonstrated a high anti-tumor efficacy of the combination treatment with tyrosine kinase inhibitors (TKI) and anti-PD-1 antibodies which made the down-staging followed by subsequent curative resection (also called *conversion therapy*) possible for selection patients with unresectable HCC with a favorable prognosis. Many neoadjuvant systemic therapies have shown the potential to reduce the possibility of metastatic recurrence after surgery and improve survival in patients with resectable HCC. Less is known about the impact of adjuvant systemic therapies alone. Adjuvant therapy with atezolizumab and bevacizumab (IMbrave 050 study) has been shown to improve recurrence-free survival (RFS) in HCC patients following surgical resection or ablation. We carried out a multi-center prospective cohort study to evaluate the efficacy and safety of lenvatinib plus transarterial chemoembolization (TACE) as an adjuvant therapy in HCC patients with high risk of recurrence (LACE study). The results indicate that the combination of lenvatinib with TACE is a promising adjuvant strategy which provides better survival benefits and manageable safety profile for HCC patients with high risk of postoperative recurrence. However, there is not approved neoadjuvant or adjuvant systemic therapy for these patients yet. In conclusion, the rapid progression in the systemic therapy of HCC has brought a paradigm shift of surgical treatment of HCC. However, more work is needed to identify the optimal combination, and to solve the drug resistance, as well as the systemic toxicity and side-effects.