

Keynote Lecture I

Advances in liver transplantation for hepatocellular carcinoma – A prototype for transplant oncology

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Both primary liver cancers and cancers metastatic to the liver have increased over the past 5 decades. Primary liver cancers were the sixth most diagnosed cancer and the fourth leading cause of cancer death globally. In addition, approximately 110 000 Americans present with synchronous liver metastasis at the time of diagnosis of their primary cancer, with a resultant one-year patient survival of 15%, compared to 24% in those with non-hepatic metastasis. Despite the tremendous disease burden imposed by primary and metastatic cancers in the liver, liver transplantation has failed to gain traction early on as a therapeutic option because of poor post-transplant outcomes, especially high recurrence rates. However, as our understanding of the nature of these cancers has been advancing, as well as marked improvements in outcomes in the setting of hepatocellular carcinoma as an indication for liver transplantation, reassessment of the current state-of-the-art bears consideration.

A newly energized offshoot in liver cancer, sets forward the selected use of liver transplantation in the management of primary and metastatic tumors to the liver. The multidisciplinary approach to managing these malignancies forms the basis of transplant oncology. The primary principle is the adoption of a multidisciplinary approach to dealing with primary liver tumors as well as metastatic tumors to the liver, regardless of whether avenue of final treatments the patient journeys on. The elements include neoadjuvant multimodality therapy to downstage or control tumor growth, incorporating advances in imaging technologies and biomarkers for tumor staging, molecular profiling of tumor to assess the use of targeted therapies as well as to determine risk profiles, and advances in immunosuppressive strategies to reduce risk of tumor recurrence.

Currently, HCC, hilar cholangiocarcinoma, hepatic epithelioid hemangioendothelioma, and metastatic neuroendocrine tumors are acceptable indications for OLT, although application of these principles will further define conditions for optimal outcomes. Experiences with intrahepatic cholangiocarcinoma and metastatic colorectal cancer are rapidly accumulating, promising to enhance our understanding of these tumors to improve outcomes with or without transplantation.