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ENDOSCOPIC DRAINAGE AND ABLATIVE OPTIONS FOR PANCREATOBILIARY TUMORS

Dr Randhir Sud, Gurugram

- Endoscopic biliary drainage with a self-expandable metal stent (SEMS) is the standard of care today.
- More than 50% of liver volume must be drained to effectively palliate and avoid atrophic lobe drainage in multifocal hepatic steatosis (MHS).
- Two or more uncovered SEMS are preferred in high-grade hilar tumors. It is important to prevent contamination of segments that have not been drained.
- Endoscopic ultrasound-guided choledochoduodenostomy (EUS-CDS) is preferred if endoscopic retrograde cholangiopancreatography (ERCP) drainage fails or is incomplete.
- Percutaneous transhepatic biliary drainage (PTBD) is a valid option if ERCP fails or in altered anatomy. It is associated with a high success rate (87-100%).
- Intraductal photodynamic therapy (PDT) and possibly endobiliary radiofrequency ablation (eRFA) improve survival.
- Asia Pacific Consensus 2013 advises SEMS for palliation of high-grade MHS if the expected survival of the patient is more than 3 months.
- ESGE Guidelines 2018 recommends uncovered SEMS as a choice of the stent in MHS for palliative drainage. ERCP is the first choice for lower-end and Bismuth I and II. However, there is controversy in the route of drainage (ERCP or PTBD) of the advanced MHS.

CONVENTIONAL TRANSARTERIAL CHEMOEMBOLIZATION FOR HEPATOCELLULAR CARCINOMA

Dr Naveen Kalra, Chandigarh

Surgery is the gold standard for treating hepatocellular carcinoma (HCC). But 70% to 90% of the patients are unsuitable for resection due to extensive intrahepatic tumor involvement, extrahepatic disease and poor liver reserve. In these patients, conventional transarterial chemoembolization (TACE) is considered one of the

standard treatment options for patients with HCC. TACE is the blockade of tumorous arterial flow through embolic material, which carries chemotherapeutic drugs.

In this method, the catheter/microcatheter is selectively placed in the hepatic artery via the common femoral artery to visualize the blood vessels supplying the tumor and identify the tumor-feeding arteries. This is followed by infusing a chemotherapeutic drug, such as doxorubicin, emulsified with lipiodol, a carrier of a chemotoxic drug. The viscosity of lipiodol creates a temporary vascular embolization effect. Lastly, particulate agents are injected.

The rationale behind using TACE for such patients are: Tumor-fed primarily from hepatic arteries; intra-arterial injection of anticancer drugs; higher intratumoral concentration; minimize systemic side effects; relatively inexpensive compared to other endovascular techniques.

THE EMERGING ROLE OF SSM AND OTHER NONINVASIVE MODALITIES IN THE DIAGNOSIS AND MANAGEMENT OF PORTAL HYPERTENSION

Dr Shiv K Sarin, New Delhi

- Portal hypertension (PHT) can be accessed via invasive or noninvasive tests.
- Noninvasive tests are promising in predicting the presence of clinically significant portal hypertension (CSPH) and excluding patients not needing endoscopy. Current invasive measures for identifying patients at high risk of CSPH and decompensation include biopsy and hepatic venous pressure gradient (HVPG).
- Developing noninvasive measures for the identification of patients at high risk of CSPH and decompensation includes plasma biomarkers (vWF-Ag, APRI, ELF, ICG-r15), liver stiffness measurement (LSM) and spleen stiffness measurement (SSM).
- SSM <21 kPa rules out CSPH, while SSM >50 kPa rules-in CSPH.
- For the assessment of PHT-HVPG is the gold standard; vWF is promising; spleen stiffness is reliable, and machine learning is promising.
- SSM/LSM are promising noninvasive tests for knowing the response to beta-blockers.

MANAGEMENT OF POST LIVER TRANSPLANT BILIARY STRICTURES: ENDOSCOPIC INTERVENTIONS

Dr Manoj K Sahu, Bhubaneswar

- Biliary anastomosis has long been considered the Achilles heel of orthotopic liver transplantation (OLT).
- Biliary strictures are the most frequently described complication, affecting 4% to 15% of patients after liver transplant. It can be anastomotic (85%) or nonanastomotic.
- Anastomotic strictures appear more often in living donor liver transplantation (LDLT) than in deceased donor liver transplant (DDLT), in the percentage of 13% to 36% and 5% to 15%, respectively.
- Prompt and systematic evaluation of abnormal liver enzymes after liver transplant surgery is crucial to identify biliary strictures at an early stage.
- Clinicians are advised to retain a high index of suspicion, especially in the first year after the transplant, and investigate all liver function abnormalities with a magnetic resonance cholangiopancreatography (MRCP) to allow early recognition.
- Endoscopic retrograde cholangiopancreatography should be used as the initial therapy for biliary strictures. Endoscopist must ascertain the full operative details of the biliary and liver anatomy.
- The rendezvous method, magnetic compression anastomosis and peroral cholangioscopy, endoscopic ultrasound guided-biliary drainage (EUS-BD) are options in difficult scenarios.

EUS-GUIDED LIVER BIOPSY AND PORTAL PRESSURE GRADIENT MEASUREMENT

Dr Arka De, Chandigarh

Endoscopic ultrasound-guided liver biopsy (EUS-LB) is a safe alternative to percutaneous and transjugular routes with comparable diagnostic yields. It is very suitable for the biopsy of both the hepatic lobe and can be used to assess the portal pressure gradient (PPG) simultaneously.

The basic steps performed in the EUS-LB technique are:

- Localize avascular path in the liver using gastric cardia in the left hepatic lobe or from D1 in the right hepatic lobe.
- Puncture through gastric or duodenal wall liver using a quick stroke.
- After entering the liver parenchyma, turn on the suction by turning the stop-clock.

- Take around three actuations with the to-and-fro movement of the needle.
- Needle travel: 3 cm course of the needle travels sufficient, but a longer needle can be used if the condition permits.
- Turn off the suction before removing the needle from the liver.

EUS-PPG is found to have a good correlation with the hepatic venous pressure gradient. Mathematically, it can be defined as **"Portal pressure gradient (PPG) = Portal venous pressure - Free hepatic venous pressure."**

Some important tips to remember while performing the EUS-PPG technique are:

- Sedative agents are the Achilles heel of EUS-PPG as they can affect the portal hemodynamic.
- Low doses of midazolam are preferred if needed.
- Entry site of the vessel should be surrounded by adequate liver parenchyma for tamponade.
- When the needle is passed into the hepatic vein, flush the needle with hep-saline before recording the pressure reading.
- Take at least three pressure readings.
- Re-flush the needle before taking the readings.

RADIOLOGICAL INTERVENTIONS IN POST-TRANSPLANT BILIARY STRICTURES

Dr Deepashree T, Chennai

Post-transplant biliary strictures are a known complication after liver transplantation. Following a liver transplant, they occur when there is a narrowing or obstruction in the bile ducts that connect the liver to the small intestine (common bile duct and its branches). These strictures can lead to bile flow impairment, causing symptoms such as jaundice, itching and cholangitis (infection of the bile ducts). Few tips to avoid this complication are avoiding this complication are: RHD not to be clamped to avoid crushing injury back table. Graft to be flushed with the University of Wisconsin or histidine-tryptophan-ketoglutarate solution. A small amount of liver tissue should be left around the right hepatic duct to prevent devascularization, and the complete right hilar plate should be encircled. Also, it has been seen that preventing bile leaks has the potential to reduce the incidence of biliary strictures, apart from the reduction in biliary and fungal sepsis. Using the bile leak test with saline, propofol or intralipid can be beneficial in reducing strictures and sepsis, particularly in the early stage of a program or when biliary reconstruction is complicated.