LIVER TRANSPLANT PATIENTS

Post operative care in the SICU:

Labs: Panel 7, Ca, Mg, PO4, CBC, PT/PTT, LFTs, LDH
  • Post op and daily
  • Follow CBC Q 4 hrs x 24 hrs

Drains:
  • #1 J.P. exits most laterally on the right, and is positioned lateral to the right lobe of the liver, draining the retroperitoneum.
  • #2 J.P. is placed below the porta hepatis, near the common bile duct anastomosis.
  • #3 J.P. is on the left side of the abdomen beneath the left lobe of the liver (the area behind the retroheptic cava).
  • Jackson-Pratts should be patent and on closed bulb suction.

Immunosupression:
  • Tacrolimus is started within 12 hours of OLT and is given as an oral BID dose. Tacrolimus levels (whole trough levels) of 10 - 15 ng/ml are desired in the first postoperative week and 5 - 15 in the following weeks, adjusting to renal function. Daily adjustments of tacrolimus doses are made on afternoon rounds once the trough levels are known. The first dose of the new order will be administered at 2100H and the morning dose at 0900H (12 hours later). When a dose of 1/1 is given on rounds, that means 1 mg tonight and 1 mg in the morning. Trough levels should be drawn approximately 1 hour before the morning dose (at approx 7 am).
  • All patients receive steroids postoperatively. Immediately following liver transplant, methyprednisolone (Solumedrol) IV is tapered over 7 days as outlined in the post-op order set.

Caveats:
  • Crystalloid should be avoided and albumin used for fluid boluses.
  • CVP’s should be kept on the low side.
  • Post-op IVF is D5.45NS. If hyperglycemic may remove D5 and place on SSI or gtt
  • Correction of coagulopathy is done only at the direction of the TXP fellow or attending. Administration of these agents may mask primary non function of the liver.
  • Orders for immunosupression are only to be placed by SCCS fellows and NPs. If you are called, please refer caller to fellow/NP on the service.

Call triggers:
  • Bleeding
  • Change in JP quality or quantity
  • Need for fluids
  • Any change in hemodynamics
POSTOPERATIVE COMPLICATIONS

a. Coagulopathy
   • Bleeding can be a problem in the early postoperative period because of the extensive dissection involved in the transplant, the multiple vascular anastomoses, and the extreme coagulopathies exhibited in the end-stage liver disease patient. **Correction of coagulopathy is done only at the direction of the fellow or attending.** A patient is returned to the operating room for obvious arterial bleeding, hypotension associated with a falling Hgb, transfusion requirement of 5 or more units of PRBC’s within first 24 hrs, or significant bloody drainage from the JP drains or the incision.

b. Biliary Complications
   • Bile leaks present with bile in the drains or with signs of localized or general peritonitis. Notify SCCS fellow/NP immediately.

c. Hepatic artery thrombosis (HAT)
   • Early thrombosis of the hepatic artery following OLT is not common in the adult population (<3%). If HAT occurs during the immediate post-operative period it may present as marked elevation in transaminases, acute graft failure, or fulminant hepatic necrosis and sepsis. A duplex-ultrasound study from vascular lab should be obtained STAT. If suspected, notify SCCS fellow/NP immediately.

d. Graft failure
   • Primary nonfunction (PNF) occurs in about 2-5% of all transplants, and is suggested by signs of liver failure, high transaminases, worsening coagulopathy, and a steady rise in bilirubin. PGE1 and/or plasmapheresis can be used to prevent or reverse PNF. Patients that progress to PNF always require urgent retransplantation unless there is a significant contraindication.
   • Ischemic/reperfusion injury or delayed nonfunction (DNF) can be manifested by high transaminases posttransplant with a steady rise in bilirubin. Treatment is supportive initially, but may require retransplantation in the early postoperative period.
   • Early allograft dysfunction (EAD) is defined by the presence of one of the following: transaminases >2000 in the first week, Bilirubin ≥10 on POD 7, or INR ≥ 1.6 on POD 7. EAD has an approximate 20% incidence and is associated with decreased post-transplant patient and graft survival.

e. Acute rejection
   • 10-15% of OLT recipient’s show signs of rejection in the first week. Early acute rejection can occur between the fifth and tenth postoperative days, but can often be after months and years. There are usually no symptoms, but a clinical presentation can consist of fever, right upper quadrant and back pain. An increase in liver enzymes (ALT/AST) and/or rising bilirubin over 1-2 days in seen on labs. Elevation of liver enzymes and increased temperature should raise the question of rejection. Episodes of acute rejection are treated with a high dose bolus steroid doses.