Critical Care Guidelines
FOR CRITICAL CARE USE ONLY

Liver Transplant Patients

Key early management issues:

1. **Potential for bleeding**
2. **Intravascular Volume requirement –**
   Intraoperative course/pre-existing ascites/ongoing drain losses may predict those who require lots of fluid. Frequent clinical and biochemical assessment crucial.
3. **Assessment of early graft function-**
   Clinical/biochemical/haematological/acid base and radiological assessment (Doppler in 1st 24hrs organised by transplant team)

First 24hrs

On arrival from theatre patient admitted in the routine fashion.

On Admission:

ABC- as for any ventilated ICU admission
Immediate establishment of monitoring (see below)
Sedation- Patients arrive from theatre sedated and ventilated (see drugs below)
Bloods- see dedicated liver transplant results flow sheet for first 24hrs tests/times
Paperwork- medical and nursing admission, drug kardex, fluids, audit form

Lines:

Arterial x 2- transducer both waveforms
IJ Vein x 2- 1 CVP monitoring
1 rapid infusion line (minimise use, not for vasoactive drugs)
PA catheter must be continuously transduced and displayed (if present). Ensure obturator in place when removed
NG tube- on free drainage
Urinary catheter
Surgical drains

Drugs:

1. **Antibiotics-**

Co-amoxiclav 1.2 grams at 0 and 8 hours from start of operation
Metronidazole 500mg at 0 and 8 hours from start of operation (if roux-en-Y)
Penicillin Allergic:
Cipro 400mg at 0 and 12 hours from start of operation
Vanc 1g at 0 hours and review 2nd dose at 12 hours
Metronidazole 500mg at 0 and 8 hours from start of operation (if roux-en-Y)
(NB. check what antibiotics given in theatre)

2. **Fluconazole** 100mg iv daily
3. **Ranitidine-** 50mg iv tid
4. **Sedation-** Propofol and Alfentanil
   Morphine/Fentanyl PCA when extubated

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5. Immunosuppression: see appendix
PATIENTS SHOULD ARRIVE FROM THEATRE WITH INITIAL IMMUNOSUPPRESSION PATHWAY DOCUMENTED IN HANDOVER.

All Patients:
Hydrocortisone 100mg iv bd
PLUS
Tacrolimus/Azathioprine OR Basiliximab/MMF

6. **Hepatitis B Patients:**
Human Hepatitis B Immunoglobulin- see instructions in Pharmacy Folder

Ongoing management
General condition and stability will dictate speed of weaning, extubation and de-escalation of monitoring.
Biochemical (falling lactate) and haematological (falling/stable prothrombin time) markers of acceptable graft function.
Lines should not be removed until radiological confirmation of graft perfusion.
Assess coagulopathy/low platelets- D/W Consultant prior to correction/line removal

Common pitfalls are failure to recognise hypovolaemia. Consider in presence of rising lactate and inappropriate or persistently rising doses of noradrenaline.

Discharge to transplant HDU:
Liaise with HDU nursing and medical staff
Lines: 1 arterial, 1 venflon, 1 CVP monitoring line
Discharge paperwork as per unit procedure

Appendix.

Immunosuppression pathways

1) Standard
Tacrolimus Oral 0.075mg/kg/day in 2 divided doses po/ng bd- starts morning after surgery
Tacrolimus levels done Mon, Wed, Fri
Azathioprine 1mg/kg/day Oral day after transplant (rounded to nearest 25mg
e.g. 80kg patient = 75mg/day)

2) Renal sparing (used if renal impairment (eGFR < 30 or creatinine > 150) OR blood loss >10 L in theatre.
Basiliximab 20mg Day 0 (day of OLT- check if has been given in theatre) and day 4
MMF 500mg bd IV (same dose as PO)
Withhold Tacrolimus until Day 7
No Azathioprine