UCMC – Liver Transplant Immunosuppressive Protocol

Protocol	Steroids	Antimetabolite	Calcineurin Inhibitor[4-7]
STANDARD *Includes all recipients (including SLKT) and all types of donors (including SPLIT)*	Taper[1,2] Initiate PRE-op	Mycophenolate mofetil (MMF) 500mg po q 12h[3] *Initiate on POD#0*	XR (extended release) tacrolimus 4-6 mg/dose q 24h Initiate by POD#1 **OR** IR (immediate release) tacrolimus 2-4 mg/dose q 12h Initiate by POD#2 *Target Levels:* POD #0-30: 10-12 ng/mL POD #31-180: 8-10 ng/mL POD #> 180: 3-8 ng/mL
HCC HIGH RISK			Initiate tacrolimus as above Convert to everolimus POD#30-60: Refer to mTOR conversion guideline[8]

[1]STEROID Taper

POD	0	1	2	3	4	5	6	7
Methylprednisolone IV	500	250	125	60	--	--	--	--
Prednisone PO	--	--	--	--	50	40	30	25

POD 8-20: Prednisone 20mg po
POD 21-30: Prednisone 15mg po
POD 31-45: Prednisone 10mg po
POD 46-60: Prednisone 7.5mg po
POD 61-75: Prednisone 5.0mg po
POD 76: Prednisone 2.5mg po x 2 weeks then DISCONTINUE[2]
[AIH – stay on 5mg daily indefinitely

[2]CRITERIA for STEROID discontinuation:

- Tacrolimus trough at target & stable (at least 2 readings)
- No history of allograft rejection (physician discretion)
- ESLD not secondary to AIH

[3]Mycophenolate dose adjustments

- GI adverse events: may change frequency to QID and give with meals
- WBC: ↓ dose by 50% when WBC 2-3; Hold when WBC < 2
- Active Infection: doses may be held (physician discretion)

[4] IR Tacrolimus initiation in setting of renal dysfunction

- Consider initiating low dose (i.e. 1-2mg q 12 hours) and maintaining reduced serum levels.
- May need to augment adjunctive immunosuppression (physician discretion)

[5]IR Tacrolimus is preferred agent, with CYCLOSPORINE a second line option (physician discretion)

- CYCLO target levels (ng/mL): POD 0-30: 150-200
  POD 31-180: 100-150
  POD > 180: 75-125

[6]IF unable to take PO IR tacrolimus change formulation based on clinical situation

- Able to tolerate enteral administration: administer tacrolimus suspension
  - Dose is the same as PO dose
- Strict NPO: administer sublingual (SL) tacrolimus
  - Dose is approximately 50% of PO dose
- Strict NPO and unable to take SL: consider IV tacrolimus or cyclosporine.
  - Use with caution due to adverse effects, anaphylactic reactions and need for dedicated line
  - IV tacrolimus or cyclosporine dose is approximately 1/3 of PO dose (discuss dosing with transplant pharmacist)

[7]Extended-release tacrolimus (Envarsus XR)

- May consider if:
  - Suspected tacrolimus peak-related ADE's (e.g., tremors)
  - Financial difficulties requiring manufacturer patient assistance program
- Dose is approximately 80% of total daily IR Tacrolimus dose (conversion factor may differ in select situations, discuss dosing with transplant pharmacist)
- Monitor Envarsus XR with 24-hour tacrolimus trough levels; target levels same as with IR Tacrolimus (see above)

[8]mTOR conversion: refer to mTOR conversion guidelines for details regarding contraindications, dosing, monitoring and toxicities