Liver Transplant in HIV II & HCV co-infection

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Background

- HCV & HIV co-infections are common as routes of transmission are same.

- Liver disease is often the cause of mortality & morbidity in HAART era.

- Liver transplant in these patients is possible but faced with challenges.

- HIV II, uncommon but adds more problems in monitoring of patient pre and post transplant.
History

- 63 years, female

- Transfusion acquired HCV - PPH & hysterectomy 1986
- Appendicectomy 1965
- Diagnosed in 2012, GT 3, Viral load – $10^5$
  (cytopenia & edema feet, Compensated, low MELD)

- Decompensated on IFN thp in Sept 2013
  SBP, sepsis, ARF required ventilation and CRRT
- Recovered- Considered for early transplant.

- Pre Transplant workup –
- HIV positive, RNA Negative – HIV II positive,
  Absolute CD4 – 87, CD4 % -32%
Treated with tenofovir, emtricitabine and Raltegravir.
Pre Transplant issues

1. Liver:
   - Liver functions improved.
   - OCT-NOV 2013- MELD 10
   - Oct 13 – 2 cm, hepatocellular carcinoma segment VI, RFA done, AFP – 1.4ng/ml
   - DEC 13 - Bili -1.3, INR -1.2

2. HIV:
   - OCT 2013: CD 4% –44%
   - DEC 13: Absolute CD 4 – 327
Pre Transplant issues:

3. Cardio-pulmonary:
   - Pulmonary hypertension – PASP – 63
     RA cath – PVR normal, normalized with diuresis.
   - Coronary calcium score – 128, CAG – normal

4. Renal dysfunction – Persistent – 1.4 -1.8 mg/dl (diuretics/drugs)

5. Hematology – Persistent cytopenia – hypersplenism
   CBC – 9 /2890/67k

6. ID Serology
   Total HBCore - positive.
   CMV – IgG – Positive, IgM – negative,
   VZV – IgG – Positive.
Cadaveric liver transplant

- Cadaveric Liver Transplant done on: 28th January 2014
  ICU stay 6 days.
  Total duration of stay 23 days.

- Donor details – Age 30 years, CIT < 6hrs
  Liver functions recovered well.
Post Transplant Issues

Initial immunosuppression - Tacrolimus + steroids + MMF

- 2nd week

Leucopenia – predominant lymphopenia

(Day 15 - TLC – 1300/cmm, N- 86%, L -8%)
No evidence of infection – CMV- DNA, EBV –DNA negative.
No bacterial, fungal infections.

- Tacrolimus omitted and switched to cyclosporine,
- Supported by growth factors (G-CSF)

- TLC – recovered, Lymphopenia persistent (Lymphocytes 8%)

- Reoprts on 18th March – TLC 3230, N- 82%, L10%, C2 level - 957 (110 mg B.D. of CsA)

- Current Immuno suppression – Cyclosporine + steroids
  (No MMF as yet – cytopenia)
Post Transplant issues:

- Infection Prophylaxis –
  Septra & Valgacyclovir – restricted due to cytopenia
  Septra started late after 1 month,
  CMV – Pre-emptive prophylaxis.

Need answers on:
- Prophylaxis for MAC / MTB, Post Transplant vaccination.
- Management of hepatitis C - HCV tretatment - when? IFN or DAAs.
- Monitoring of HIV – Cytopenia and HIV II
- Assessment of drug resistance and change of ART
Review

- Miro et al: AJT 2012
  - HCV/HIV Vs HCV mono infected
  - 5 years patient survival: 54% Vs 71%
  - Predictors: HIV co infection/ Geno 1/ DRI/ Pre TX negative HCV viral load.

- Terrault N: Liver transplantation 2012
  - HCV/HIV Vs HCV
  - 3 years patient survival: 60% Vs 79%
  - Predictors: Older donor/ CKLT/ HCV positive donor/ BMI < 21
Points to carry home:

- **HIV & HCV co-infection**
  Liver disease is more life threatening – CLD & risk of HCC
  HIV II – slow progressive.

- **Liver transplant is possible in controlled HIV disease.**
  Good outcomes in non HCV transplants.
  Lower survival in HCV transplants – due to FCH and fast progression of HCV.

- **Recurrent Hep C & its treatment is challenging** – IFN difficult to manage.
  DAAs (protease & polymerase inhibitors) are the hope. – Will improve the outcome.

- **Choosing drugs (ART) and monitoring of drug interactions is important.**

- **Adequate immunosuppression** - Increased risk of rejection.

- **HIV - II is an additional challenge in terms of disease treatment & monitoring.**
  NNRTI – Not an option, PIs – Drug interactions.
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