Liver Transplantation for HIV-Infected Patients with Hepatocellular Carcinoma (HCC)

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Background
- Orthotopic Liver Transplantation (OLT) is a treatment modality for selected patients with HCC.
- OLT is not widely available for HIV-infected patients.
- This study reports the experience of OLT in HIV[+] patients with HCC.

Methods
- Retrospective analysis in 47 centers
  - North America, South America, Europe, and Australia
  - All HCC cases in HIV[+] patients from 1995-2014, identified through local tumor registries

Total N=392

Comparison of OLT with other curative therapies:
- OLT n=37 (9.4%)
- Other Curative Therapy n=124 (31.6%)
  - Radiofrequency Ablation 58
  - Surgical Resection 54
  - Percutaneous Ethanol Injection 12

HCC Tumor Characteristics
- OLT n=37
  - Other Curative Rx n=124
    - Hepatic Lesions
      - Multiple Tumors: 17 (46%) vs. 27 (22%) (p = 0.004)
    - Size (Largest Lesion cm, Median (Range): 2.8 (1.3 – 8.5) vs. 2.8 (0.5 – 11)) (p = 0.63)
    - AFP level (ng/ml, Median): 13.0 vs. 41 (0.001)
    - Extrahepatic metastases: 0 vs. 7 (0.159)
    - Model for End-Stage Liver Disease: 20 (56%) vs. 94 (76%) (p = 0.004)

HCC Staging
- OLT n=37
  - Other Curative Rx n=124
    - BCLC Stage, n (%)
      - A: 23 (63%) vs. 14 (11%)
      - B: 11 (30%) vs. 32 (26%)
      - C: 3 (8%) vs. 3 (4%)
      - D: 0% vs. 0% (p = 0.004)

Results

Patient Characteristics
- OLT (n=37)
  - Other Curative Rx (n=124)
    - Age (yr), Mean: 60.3 ± 13.4 vs. 53.4 ± 15.4 (p = 0.038)
    - Male Sex: 24 (65%) vs. 111 (89%) (p = 0.072)
    - Race/Ethnicity: White 12 (32%) vs. 22 (69%) (p = 0.041)
      - Black 16 (43%) vs. 3 (8%)
      - Latino 21 (57%) vs. 7 (5.6%)
    - Alcohol Use: 27 (73%) vs. 26 (22%) (p = 0.01)
      - Non-Active (Alcoholics) 9 (24%) vs. 3 (3.4%)
    - Excessive Alcohol Consumption: 7 (19%) vs. 28 (22%) (p = 0.09)
    - Median CD4+ Cells (per mm3): 425 vs. 425 (p = 0.97)
    - Median HIV RNA (copies/mL): 19 (88%) vs. 19 (82%) (p = 0.43)
    - Median Child-Pugh Score: 9 vs. 9 (p = 0.915)

Survival
- OLT vs. other curative Rx (by Rx type)
  - 2 years Survival: OLT 100% vs. Other Curative Rx 93% (p = 0.94)
  - 5 years Survival: OLT 85% vs. Other Curative Rx 51% (p = 0.005)

OLT vs. other curative Rx
- OLT vs. other curative Rx by BCLC Stage
  - BCLC A: Better survival with OLT
  - BCLC B: Better survival with OLT

OLT vs. other curative Rx by BCLC Stages C & D
- Other Curative Rx vs. OLT

Multi-Variable Cox Regression Analysis of Survival

Summary and Conclusion
- OLT for HIV-infected patients with HCC has a 5-year survival rate of 85%, better than all other curative therapies.
- This compares favorably to a 5-year survival rate of 75–80% in HIV-negative patients with HCC.
- OLT improved survival occurs in BCLC stages A & B, but not C & D.
- OLT independently predicts better survival together with BCLC stage and alcohol abuse after controlling for HIV viral load.