Multispecialty Collaboration Benefits Efforts at Expanding Donor Pools

Heather O'Dell, Callie Darragh, Sarah Smith, Kelly Schlendorf, Ashish Shah, Roman Perri, Joseph Awad, Alicia Carver, Cori Edmonds, and Chan Chung

Vanderbilt University Medical Center

Background

- Historically, interferon-based antiviral therapy for hepatitis C (HCV) was contraindicated in extrahepatic transplantation
- Advances in HCV therapy have changed the paradigm
- Consideration of HCV therapy for patients who have undergone heart/kidney/lung transplantation

Background

- Heart failure patients are at high risk of mortality
- Escalating care and associated costs as their disease progresses
- Opportunities to expand the donor pool are welcomed
- Cardiology team not as experienced in HCV or the changed treatment paradigm
- Our experience in successful antiviral therapy for HCV in liver transplantation (LT) offers opportunities in other programs

Goals

- Parlay the experience in LT and the management of HCV into opportunity for successful donor expansion
- Reduce the number of discarded organs
- Educate and provide support for the heart transplant team to successfully use HCV exposed and infected grafts into naïve recipients
- Develop a monitoring and treatment pathway for HCV acquired at the time of heart transplantation (HT)

Collaboration

Results

Total HT recipients: 59

Donor HCV Antibody (Ab) and Nucleic Acid Testing (NAT)

- HCV Ab+ / NAT-: 10
- HCV Ab+ / NAT+: 47
- HCV Ab- / NAT+: 2

Results

HCV Ab+/NAT- Donors: 10

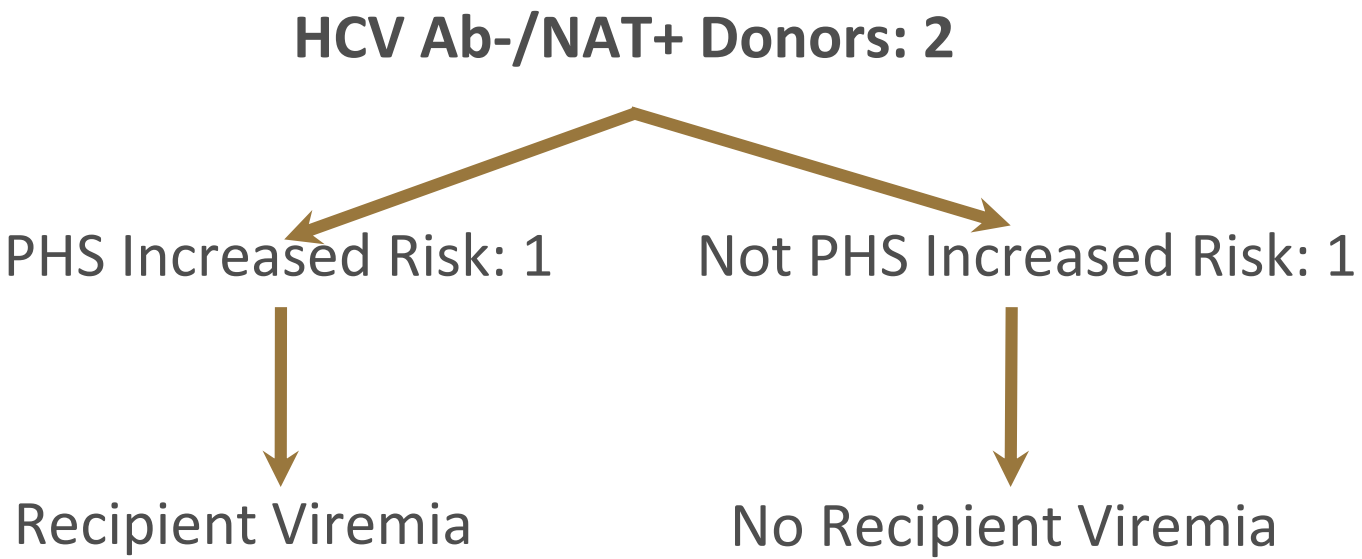
- Median donor age: 33yo
- Public Health Services (PHS) Increased Risk: 70%
- Median recipient age: 57yo
- Recipient gender: 50% male
- Transient HCV antibodies found in 4 recipients
- **No recipient has developed infection**

Results

HCV Ab+/NAT+ Donors: 47

- Median donor age: 31yo
- PHS Increased Risk: 87%
- Median recipient age: 55yo
- Recipient gender: 74% male
- 4 patients deceased prior to treatment initiation or completion

Results


HCV Ab-/NAT+ Donors: 2
PHS Increased Risk: 1
Not PHS Increased Risk: 1
Recipient Viremia
No Recipient Viremia

Results

- HCV NAT+ grafts with follow-up: 45
- Recipients developed infection: 42
- Recipients with no evidence of infection: 3
- Days to detectable virus in recipient: 1-31 days post-HT

Results

Genotype Breakdown	
Genotype 1a	23
Genotype 1b	3
Genotype 2	2
Genotype 3	8
Pending Genotype	5
Multiple Genotypes detected	1 (1a/3)

Results

- Patients that acquired HCV infection: 42
- Patients that completed treatment: 31
- Patients pending treatment: 8
- Patients currently undergoing antiviral therapy: 3

Results

- Treatment initiation after discharge from initial inpatient stay
- Median days to treatment: 55 days post-HT
- Treatment duration: 12-24 weeks
    - ledipasvir/sofosbuvir
    - glecaprevir/pibrentasvir
    - sofosbuvir/velpatasvir

Results

HCV PCR at Treatment Timepoint: 4 Weeks	
Total patients	33
Undetectable	19
Detectable >15	3
Detectable <15	9
Data not available	2

Results

Total patients requiring treatment:	**42**
End of treatment response (ETR)	31/31
Sustained virologic response (SVR) 4	30/30
Sustained virologic response (SVR) 12	27/27
Pending treatment	8
Mid-treatment	3

Potential Challenges

- Medication coverage
- Significant medication interactions (i.e., amiodarone)
- Complexity of medication adherence with inpatient administration
- Continuous education / communication with HT team

Conclusions

- HCV Ab+/NAT- grafts did not translate to recipient infection
- HCV NAT+ grafts did not universally translate to recipient infection

Conclusions

- Antiviral therapy for the treatment of HCV is well tolerated and successful in the heart transplant population

- HCV positive allografts offer an opportunity for expansion of the heart transplant donor pool

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Thank you