Vaccination Rates among University Hospital Liver Transplant Recipients

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Background

- Due to chronic immunosuppressive therapy, transplant candidates and recipients represent a vulnerable patient population at increased risk of complications from vaccine-preventable disease.
- We assess the rates of vaccination in our orthotopic liver transplant patients at University Hospital in Newark, NJ

Materials and Methods

- Retrospective chart-review including patients ≥ 18 years old who underwent liver transplantation at UH for a 3-year period from 01/01/2017 to 07/20/2020.
- Characteristics of study participants were analyzed using descriptive statistics and Chi-Square/Fisher's Exact tests were used to test associations.
- Analysis was performed using SPSS and Microsoft Excel.

Results

Table 1. Baseline Demographics and Patient Characteristics, N = 119

Age at Transplant (mean ± SD), years		
	55.89 ± 9.55	
Sex	***N***	***%***
Male	87	73.1
Female	32	26.9
Race	***N***	***%***
White/Caucasian	45	37.8
Black/African-American	16	13.4
Asian	12	10.1
Other Race	46	38.7
Ethnicity	***N***	***%***
Hispanic/Latino	42	35.3
Not Hispanic/Latino	77	64.7

Results

Table 1. Baseline Demographics and Patient Characteristics, N = 119 (continued)

Previous Transplant	***N***	***%***
Yes	4	3.4
Presence of Outpatient ID Consult	***N***	***%***
Yes	41	34.5
No	78	65.5

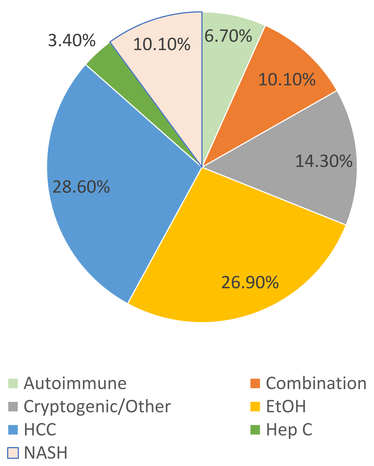
Comorbidities	***N***	***%***
DM II	50	42.0
CAD	19	16.0
Cancers (w/o HCC)	6	5.0
HTN	63	52.9
CKD	12	10.1
Autoimmune	17	14.3

Table 2. Vaccination Rates for HAV, HBV, HZV**

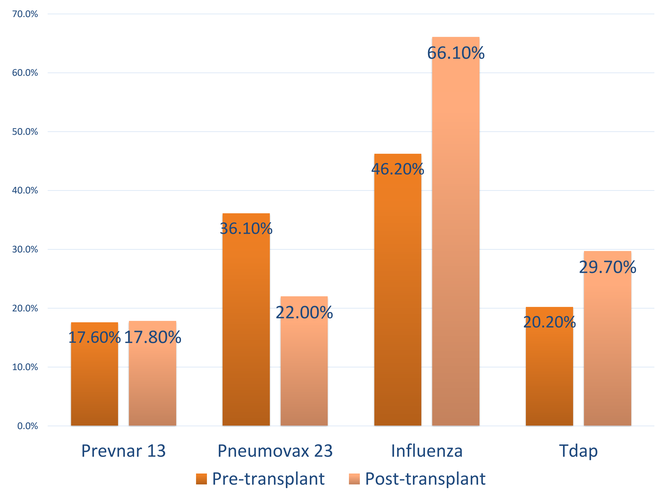
		HAV		*HBV*		*HZV***	
Vaccine Characteristics		*N*	*%*	*N*	*%*	*N*	*%*
Eligible	Yes	29	24.4	67	56.3	119	100.0
	No	90	75.6	52	43.7	0	0.0
Received	Yes	13	44.8	32	47.8	31	26.1
	No	16	55.2	35	52.8	88	73.9
Check of Protection Titers at least 4 weeks after vaccine?	Yes	13	100.0	29	90.6		
	No	0	0.0	3	9.4		

*Only eligible patients included for HAV/HBV. Patients who died within 6 months of transplant were not considered eligible for receipt of post-transplant vaccinations.
** HZV=Herpes zoster vaccination

Graph 1: Causes of Cirrhosis Necessitating Transplantation

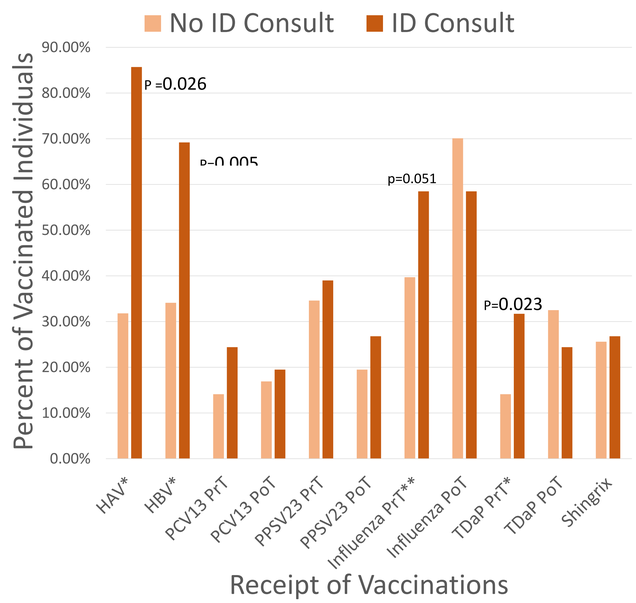


Graph 2: Vaccination Rates Pre- and Post-Transplant



Results

- 119 patients were screened during the study period, and none were excluded.
- Significant association between the presence of an outpatient ID consult and receipt of HAV, HBV and pre-transplant TDaP vaccinations.
- Receipt of pre-transplant Influenza vaccination with an ID outpatient consult was approaching significance



Discussion/Future Direction

- Vaccination rates in liver transplant patients at University Hospital do not satisfy the standards set forth by the American Society of Transplantation.
- ID pre-transplant evaluations are significantly associated with improved immunization rates for multiple vaccines.
- Further study is required to identify other strategies that may be part of a long-term solutions. Some solutions include:
  - Addition of a smartphrase within EMR notes to remind providers to order appropriate vaccinations
  - Creation of a dedicated vaccination clinic.
  - All patients requiring an ID pre-transplant evaluation

Contact

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