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1057. CpG-adjuvanted Hepatitis B vaccination improves seroprotection rates in Veterans with HIV

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Session: P-48. Hepatitis

Background. Hepatitis B virus (HBV) remains a global health issue, leading to complications including cirrhosis and hepatocellular carcinoma. Individuals co-infected with Human Immunodeficiency Virus (HIV) and HBV have increased liver-related morbidity and mortality compared to those with HBV mono-infection. Vaccination can effectively prevent HBV infection, but certain critical populations including people living with HIV (PLWH) are less likely to achieve seroprotection (antibody to hepatitis B surface antigen (HBsAb) titer ≥ 10 IU/mL) after vaccination; seroprotection rates (SPR) in PLWH range from 34 to 88% in clinical trials, with improved SPR in those with immunologic reconstitution and viral suppression. With improved immunologic status, SPR have dramatically improved in our Veteran Infectious Disease clinic population. However, a subset of patients remain HBV vaccine nonresponders despite re-vaccination attempts, perhaps due to intrinsic immunologic anergy. We hypothesized that Veterans with HIV who were nonresponders to prior HBV vaccines may respond to a more immunogenic vaccine. Heplisav-B is a 2-dose series, with improved SPR in other classically difficult to vaccinate groups (including the elderly and those with diabetes), but has not yet been studied in individuals with HIV.

Methods. HBV vaccine nonresponders who had previously been vaccinated and boosted with median 3 and up to 8 doses of alum-adjuvanted HBV vaccines were re-vaccinated with Heplisav-B. HBsAb titers were assessed at days 0, 30, and 60 to follow vaccine responses.

Results. Participants had a median age of 65 (range 44 to 83) and were virologically suppressed on antiretroviral therapy. Enrollment and vaccination was interrupted by the COVID-10 pandemic, but 8 of 10 (80%) enrolled participants had seroprotective titers at day 60, with 6 having titers > 1000 IU/mL. Of the 8 additional participants who had available serologies after the first dose, all were seroprotected, and 3 had titers > 1000 IU/mL.16 of 18 (89%) participants achieved seroprotection with Heplisav-B.

Conclusion. Heplisav-B is immunogenic in persons with HIV and should be a reasonable option for HBV vaccination of PLWH who are previous nonresponders.

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1058. Demographics of Hepatitis C Virus Antibody and RNA Positivity within an Emergency Department Screening Program

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Session: P-48. Hepatitis

Background. In support of the recent United States Preventive Services Task Force's (USPSTF) revised recommendations for non-targeted HCV screening, we have noted a shift away from active infections within the birth cohort (patients born between 1945-1965), as these individuals have often undergone successful treatment, and a shift towards younger adults who are RNA positive, especially people who use intravenous drugs (PWID).

Methods. Located in Northeastern New York State, Albany Medical Center conducts routine emergency department (ED) HCV screening, with active linkage to care. We performed a retrospective study of our HCV linkage to care data from April 2019 to June 2020. Patients were offered screening if they belonged to the birth cohort, were PWID, or at staff discretion. We estimated the effect of birth cohort, intravenous drug use and other potential risk factors on RNA positivity via Chi-square tests and Modified Poisson Regression.

Results. There were 242 people that were HCV antibody positive. The mean age was 50.9 years-old, with 118 (46.8%) in the birth cohort and 103 (42.56%) PWID. As compared to the birth cohort, a significantly greater proportion of non-birth cohort patients were PWID (62% vs 21.2%, p< 0.01) and homeless (17.7% vs 9.3%, p=0.05). Birth cohort patients were 0.55 times (95%CI: 0.39 to 0.79) less likely to be RNA positive. PWID were 2.22 times (95% CI: 1.58 to 3.13) and homeless people were 2.05 times (95% CI: 1.50 to 2.80) more likely to be RNA positive. After multivariable adjustment, birth cohort was not a significant risk factor for RNA positivity but PWID (RR: 1.84; 95% CI: 1.26 to 2.68) and homelessness (RR: 1.69; 95% CI: 1.20 to 2.39) were significantly associated with RNA positivity.

Conclusion. These data suggest that the RNA positivity rate is higher among the non-birth cohort age group but is explained by the higher prevalence of drug use and homeless. The findings support USPSTF's new guidelines for testing all adults and shed light on the demographics of populations at risk for active infection vs. populations who are antibody positive and RNA negative. Further research might explore (a) whether these findings are applicable to other clinical settings and geographic locations and (b) the feasibility of targeting patients with active infection in settings such as the ED.

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1059. Evaluating Hepatitis C Screening Rates and Successful Interventions at an Outpatient Medicine/Pediatrics Practice

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Session: P-48. Hepatitis

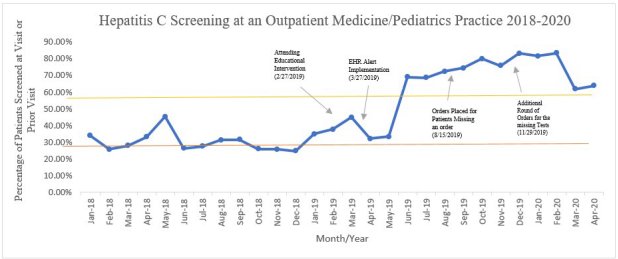
Background. Despite the 2013 United States Preventive Services Task Force (USPSTF) recommendations, Hepatitis C (HCV) screening rates among patients born between 1945-1965 has remained below 25% (MacLean, 2018). At our outpatient academic suburban primary care practice in Albany County, NY, our hepatitis C baseline prior to interventions was 31.75%. In collaboration with Project FOCUS through Gilead, our practice attempted to increase screening rates among this birth cohort.

Methods. We performed a retrospective chart review on patients eligible for HCV screening with birth years 1945-1965 at the time of their visit at the Albany Med Internal Medicine/Pediatrics practice. We report monthly HCV screening from January 2018 to April 2020. In addition, we determined whether HCV screening rates differed by race, gender, ethnicity, private vs public insurance, and risk stratification or RAF (standard vs. high-risk patient).

Results. The chance that a test conducted for eligible patients increased from 29.9% (pre-intervention) to 58.76% in 2019 (post-intervention). From June 2019-December 2019, the testing rates were consistently above the 2019 average (Figure 1). There were no significant differences in HCV screening due to gender, race, ethnicity, or type of insurance (Table 1).

Figure 1. Hepatitis C Screening Rates at an Outpatient Medicine/Pediatrics Practice 2018-2020

Figure 1.



Orange Line=2018 Average, 29.9%
Yellow Line= 2019 Average, 58.8%

Post-Intervention Average = 31.60%
Pre-Intervention Average=73.88%

Table 1. Demographics - Hepatitis C Screening Rates

Table 1.

	% Screened for HCV(n)	% Not Screened for HCV(n)	Chi-Square	P-value
Gender				
Male	64.13 (506)	35.87 (283)		
Female	68.03(879)	31.97(413)	3.3511	0.67
Race				
American Indian or Alaska Native	0(0)	100(1)		
Asian	67.57(25)	32.43(12)		
Black or African American	74.71(65)	25.92 (22)		
Native Hawaiian or Pacific Islander	0(0)	100(1)	6.8459	0. 232
Unknown	67.55(127)	32.45(61)		
White	66.10(168)	33.90(599)		
Ethnicity				
Hispanic/Latino	75(30)	25(10)		
Non-Hispanic	66.89(1273)	33.11(630)	4.5359	0.103
Unknown	59.42(82)	40.58 (56)		
Risk Stratification				
Standard Risk	66.08(1313)	33.92(674)	4.4592	0.034
High Risk	76.60(72)	23.40 (22)		
Insurance				
Managed Medicaid	56.70(55)	43.30(42)		
Managed Medicare	70.27(208)	29.73 (88)		
Medicaid	83.33(5)	16.67(1)	9.618	0.087
Medicare	64.43(221)	35.57 (122)		
Private	66.97 (896)	33.03(442)		
Self-Pay	0(0)	100(1)		
Insurance				
Private	66.97(896)	33.03(441)	0.2423	0.606
Public	65.90(489)	34.10(253)		

Conclusion. In this outpatient Med/Peds practice, hepatitis C screening rates increased dramatically after incorporation of an EMR prompt, as well as nursing-generated orders for patients due for screening. There was no statistical difference

in screening based on race, ethnicity, gender, or insurance type. Of note, high-risk patients were more likely to be screened, perhaps as they receive more case management services and are more likely to be in the office, increasing the opportunities for screening. The next step would be to adapt these interventions to screening all patients age 18-79, as per the updated 2020 USPSTF guidelines.

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1060. Evaluation of ALT at Sustained Virologic Response (SVR) in Patients with Treated Hepatitis C Virus (HCV) Infection

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Session: P-48. Hepatitis

Background. With the advent of directly acting antiviral agents, HCV cure rates exceed 90% in real world studies with an excellent safety profile, but viral load tests of cure are expensive and may limit access to treatment, especially in resource-limited settings. Elevated alanine aminotransferase (ALT) has been shown to correlate with hepatocellular damage. Few studies have evaluated the use of ALT in direct acting antiviral (DAA) treated HCV patients post-treatment as a marker of treatment success. In this large retrospective cohort study, we evaluated the ability of serum ALT level at SVR to predict treatment outcome.

Methods. We collected baseline demographics, treatment characteristics, and outcomes of DAA-treated patients treated between January 2015 through January 2019 in the VA Maryland Healthcare System as standard of care, and patients in federally qualified health centers in Washington, DC treated between May and November 2015 in the ASCEND study (NCT02339038). Using the ASCEND study as a training set and VA data as the confirmatory set, receiver operating curves (ROC) were generated to determine the predictive value of ALT at SVR for treatment outcome.

Results. In total, 1415 patients were included, with 1010 patients from the VA and 405 from the ASCEND cohort. We found 96% (n=1360) of patients achieved SVR; < 4% (n =55) relapsed. Baseline demographics are in Table 1. The ALT at SVR were 21.19 IU/L (SD 13.98) and 17.89 IU/L (SD 11.62) in the VA and ASCEND data, respectively compared to 57.84 (SD 41.06) and 42.53 (SD 19.61) who relapsed. With the VA and ASCEND data combined, the mean ALT at SVR was 20.25 (SD 13.43) in comparison to an ALT of 53.11 (SD 36.33) for those patients who relapsed. ROC analysis revealed that ALT > 22 predicted an increased risk of relapse (Figure 1).

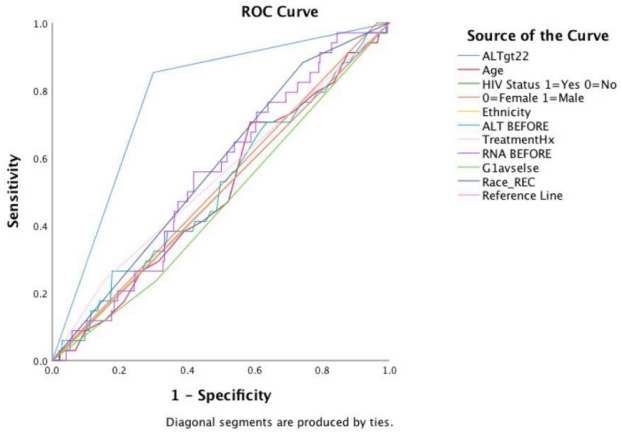
Table 1:Characteristics of Subjects Completing Hepatitis C Treatment

Characteristics of Subjects Completing Hepatitis C Treatment

	ASCEND n=405 (%)	*Veterans Affairs n=1010 (%)*	*X2*
Male	286 (68.1)	977 (96.7)	<.001 (232.9)
Race/Ethnicity			
White	13 (3.2)	242 (24.0)	<.001 (101.93)
Black	385 (95.1)	750 (74.3)	
Other	7 (1.7)	8 (.8)	
Missing		8 (.8)	
Hispanic	7 (1.7)	4 (.4)	.011 (6.54)
Fibrosis Score*			<.001 (1415.0)
Not available		81 (8.0)	
0-1	108 (26.7)	334 (33.1)	
2	146 (36.0)	220 (21.8)	
3	65 (16.0)	128 (12.7)	
4	86 (21.2)	247 (24.5)	
Genotype			<.001 (28.04)
1a	296 (73.1)	677 (67.0)	
1b	109 (26.9)	235 (23.3)	
2		48 (4.8)	
3		13 (1.3)	
4		3 (.3)	
Missing		34 (3.4)	
HIV Positive	81 (20)	63 (6.2)	<.001 (59.9)
Treatment Experienced	70 (17.3)	158 (15.7)	.453 (.564)
SVR12	388 (95.8)	972 (96.2)	.702 (.147)
	M (SD)	*M (SD)*	
Age	59.04 (6.773)	64.72 (6.724)	.640 (*F*, 218)
Baseline HCV RNA (log)	6.288 (.569)	5.974 (.802)	<.001 (*F*,14.577)
Baseline ALT	48.81 (33.44)	52.78 (36.90)	.283 (*F*,1.152)

* Liver fibrosis staging within the ASCEND study was documented as Metavir staging (Bonder et al 2014) from any liver biopsy or serologic biomarker test within 3 years of the screening visit. VAMHCS population biopsy scoring was based on Metavir cutoff and fibrosis scores from transient elastography.

Figure 1: ROC Curve



Conclusion. In this real-world cohort, we found that ALT greater than 22 at SVR corresponded with an increased risk of relapse and was independent of variables previously associated with relapse, including HIV coinfection status, sex, treatment history, and fibrosis staging. Limiting HCV viral load testing to patients with ALT > 22 at SVR may reduce the overall burden of HCV treatment costs for the majority of HCV treated patients.

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1061. False Positive Human Immunodeficiency Virus Testing Due to Acute Hepatitis A Infection: A Case Series

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Session: P-48. Hepatitis

Background. In our urban, underserved patient population, Human Immunodeficiency Virus (HIV) is hyper-endemic, and HIV screening is frequently performed. Although HIV screening tests have high specificity, false positives can occur. Numerous reasons for false positive testing have been cited, including vaccinations, autoimmune diseases, and viral infections. In 2019, Philadelphia experienced a large Hepatitis A outbreak, during which time false positive HIV screening tests were discovered. Our aim was to further describe these patients who had been diagnosed with acute Hepatitis A infection and in whom false positive HIV testing had occurred.

Methods. We conducted a retrospective chart review of adult patients admitted to our hospital between January 2017 and December 2019 who had a positive Hepatitis A Virus (HAV) IgM. Demographics, HIV tests, viral hepatitis tests, and liver tests were recorded. False positive HIV was defined as a positive HIV screen (p24 antigen and HIV-1 and 2 antibody combo), followed by a negative differentiation assay for HIV-1 and 2 antibodies, combined with a negative HIV PCR.

Results. A total of 156 unique patients were found to have acute HAV, with 138 cases identified in 2019. Of these, 3 patients had confirmed false positive HIV testing, and 1 patient had suspected false positive HIV testing (HIV-2 differentiation assay indeterminate, with very low local prevalence of HIV-2), for a false positive test rate of 2.6% (4/156). Ages ranged from 36-47 years, 3 were male, and 2 were persons who injected drugs (PWID). Three patients had prior negative HIV testing. Two patients had fevers during admission, but none of the four were febrile at the time of HIV test collection. Three patients had elevated transaminases, and two had abnormal coagulation testing. Coinfection with Hepatitis C was found in three patients. One patient had follow-up HIV testing performed, which was negative.

Conclusion. To our knowledge, this is the first report of false positive HIV testing related to acute HAV. Prevalence of false positives was low, but awareness can facilitate patient counseling. With low sample size, conclusions cannot be drawn about risk factors related to false positive testing.

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1062. HCV GET-UP: A Group Evaluation and Treatment Uptake Intervention Improves HCV Linkage to Care for PWID

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Session: P-48. Hepatitis

Background. Though PWID represent the overwhelming majority of those living with HCV in the United States, most have not been treated. PWID often have reduced access to specialty care, as well as limited HCV knowledge, low perceived vulnerability