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Missed Opportunities for Hepatitis A Vaccination among MSM Initiating PrEP

Alwyn Cohall, MD [Professor],
Clinical Public Health & Clinical Pediatrics, Mailman School of Public Health & Columbia University Medical Center

Jason Zucker, MD, MS [Fellow],
Divisions of Infectious Diseases, Departments of Internal Medicine and Pediatrics, Columbia University Medical Center, New York, NY

Rachel Krieger, FNP-BC, MS, MPH, **Charlotte Scott, FNP-BC, MS [Certified Registered Nurse Practitioner]**,
Planned Parenthood Southeastern Pennsylvania

Caryn Guido, FNP-BC,MS [Certified Registered Nurse-Practioner],
Heart Failure Program, Mount Sinai, St. Luke's Hospital

Shaina Hakala, FNP-BC, MS, ARNP [Advanced Registered Nurse Practitioner],
Seattle Cancer Care Alliance, University of Washington

Caroline Carnevale, FNP MPH AAHIVS [Principal Investigator HIV Prevention Program]
New York Presbyterian Hospital's Comprehensive Health Center

Abstract

Background: The incidence of Hepatitis A (HAV) among the general population in the United States has decreased by over 95% since the introduction of HAV vaccination in 1995. However, 10% of all new HAV infections occur among me who have sex with men (MSM). However routine HAV is not part of standard of care for provision of PrEP services.

Methods: Retrospective cohort analysis of MSM assessed for HIV prevention services between 1/1/2016 – 6/30/2017 to evaluate the rates of screening for anti-HAV seroprevalence and subsequent vaccination

Results: HAV IgG was drawn on 96% (96/100) of the patients with 58% (56/96) of patients demonstrating serologic immunity. Of the 40 patients without evidence of immunity, 77% (29/40) returned for a subsequent visit, 48% (14/29) were provided HAV vaccination, and 29% (4/14) received at least two doses. Only 35% (14/40) patients without documented immunity received HAV vaccination.

Correspondence to: Jason Zucker, 622 West 168th Street, PH4 West - 474, New York, NY 10032, Office: (212) 305 – 8039, Fax: (212) 305-1754, jz2700@cumc.columbia.edu.

Disclosure: The authors declare that they have no conflict of interest.

Consent: This study was approved by the Columbia University Medical Campus Institutional Review Board. As no identifying information was used informed consent was not obtained.

Conclusions: Visits for PrEP initiation and monitoring in MSM patients are potential opportunities for ensuring HAV vaccination among this high-risk patient population. Public health agencies could optimize HAV vaccination of the high risk MSM by incorporating HAV screening into national PrEP guidelines.

Keywords

Hepatitis A; Vaccination; MSM; Sexual Health

Introduction

The incidence of Hepatitis A (HAV) among the general population in the United States has decreased by over 95% since the introduction of HAV vaccination in 1995.[1] However, 10% of all new HAV infections occur among MSM.[2] Higher rates of HAV infections among MSM are due to a combination of factors, including: unprotected oral-anal sex, and low HAV vaccination rates.[3] Since 2006, the Advisory Committee on Immunization Practices (ACIP) has recommended routine HAV vaccination of men who have sex with men. In a nationwide cohort of HIV positive patients over one third of MSM and persons who inject drugs (PWID) were not immune to HAV.[4]

However, little is known about the prevalence of vaccination rates among HIV negative MSMs since few population-based data have historically collected information regarding sexual orientation.[5]

In New York City, there was a marked increase in incidence of HAV infection among MSM. As a response to the increase, the New York City Department of Health and Mental Hygiene (NYCDOHMH) issued alerts on March 9, 2017 and September 22, 2017 revealing subsequent 2-fold and 10-fold increases in HAV infections among the MSM population related to sexual transmission in New York City.[6,7] The NYCDOHMH promoted HAV vaccination as the main tool for preventing the continued spread of HAV infection.

The lack of population level research on MSM susceptible to HAV coupled with widespread outbreaks in New York City reveals a need for identifying at-risk MSM and exploring effective ways of reaching them for vaccination and education. Pre-Exposure Prophylaxis (PrEP) has become an important tool in preventing HIV transmission among MSM at high risk of HIV acquisition. Despite evidence of suboptimal rates of immunity to HAV and outbreaks of HAV infection among MSM, the guidelines for screening prior to PrEP initiation do not currently include screening for HAV vaccination or immunity among this high-risk population. However, the PrEP medical visit represents an opportunity for increasing MSM access to preventive care and vaccination. We describe efforts to identify those MSM patients initiating PrEP who are in need of HAV vaccination.

Methods

This study was performed in a primary care clinic serving adolescents and young adults affiliated with a large urban academic medical center in New York City. The patients are majority MSM with 56% under the age of 30, with 25% African American and 58%

Hispanic. The clinic has integrated sexual health into primary care services by providing comprehensive HIV prevention services (including PrEP), care coordination, benefits navigation, and mental health services including social work and psychiatry. The clinic provides care to approximately 40 patients per night, evening per week. Given the high risk MSM population that is served, included in the PrEP assessment is Hepatitis A screening as most of the population is unable to confirm a 2 dose vaccination history..[8]

We conducted a retrospective cohort analysis of MSM assessed for comprehensive HIV prevention services between January 1, 2016- June 30, 2017 to evaluate the rates of screening for anti-HAV seroprevalence and subsequent vaccination. We included the first 100 MSM patients, age 18 years or older, who initiated PrEP in 2016 in our clinic, and had at least one follow-up visit within 6 months. Utilizing a standardized chart abstraction form, data on patient demographics, self-identified race, hepatitis A serology, and hepatitis A vaccination was obtained.

Patients were considered immune if they had a positive HAV IgG Ab or documentation of prior HAV vaccination through the NYC vaccincation registry (EZ-Vac). We noted subsequent HAV vaccination in patients non-immune or with documented vaccination and who returned for at least one follows up visit within 6 months after initiation. We additionally reviewed charts for any written documented reasons for refusing vaccination.

Univariate analysis was performed to calculate HAV screening and vaccination rates. This study was approved by the Columbia University Medical Campus Institutional Review Board.

Results

169 charts were reviewed to identify 100 patients that met inclusion criteria. Individuals ranged in age from 18-57 years old with a median age of 29 years and a mean age of 31 years. Eighty-nine patients reported sex with exclusively men while 11 reported sex with both men and women. HAV IgG was drawn on 96% (96/100) of the patients with 58% (56/96) of patients demonstrating serologic immunity to HAV.

Overall 58% (56/96) of screened patients were found to be immune to HAV. 54% (13/24) of those ages 18-24, 54% (25/46) of those ages 26-35, 71% (15/21) of those ages 36-45, 67% (2/3) of those ages 46-55 and 0% (0/2) of those over the age of 55 were found to be immune to HAV. 58% (17/29) of African American patients, 71% (29/41) Hispanic patients, and 60% (15/25) of white patients had evidence of HAV immunity.

Of the 40 patients without evidence of immunity to HAV, 77% (29/40) returned for a subsequent visit, 48% (14/29) were provided the HAV vaccination, and 29% (4/14) received at least two doses. There was only documentation of one HAV vaccine refusal.

Overall, only 35% (14/40) patients without documented immunity received HAV vaccination and only 10% (4/40) received at least two doses. (Table 1)

Discussion

At a primary care health clinic with large population of MSM starting PrEP, we identified a high number of individuals without evidence of HAV immunity. While screening for HAV immunity is not currently recommended by the CDC when initiating MSM on PrEP, MSM are one of the high risk groups for whom both the State of New York, and the ACIP recommends routine HAV vaccination. This review demonstrates that a significant number of patients initiating PrEP did not have evidence of immunity, particularly among older individuals.

It remains unclear why HAV vaccination lags behind other vaccinations. Although this safe and effective vaccination is available and part of the Advisory Committee on Immunization Practices ACIP-endorsed vaccine schedule, suboptimal HAV vaccination rates are seen. While vaccination amongst children for most recommended vaccines is greater than 90%, hepatitis A has the lowest vaccination rate at 61%.[9] This difference is more apparent in older age groups where hepatitis A vaccination coverage was, “9.5 % for adults ≥19 years, 13.4% for adults 19-49 years, and 5.4% for adults ≥50 years”.[10] Vaccination rate differences by race and gender exist for all vaccinations in this report with lower coverage among African American, Hispanic, and Asian adults. Hepatitis A infection rates also differ by population with 10% of all new HAV infections occurring among MSM.[2]

One issue may be a lack of provider knowledge preventing a strong recommendation for routine Hepatitis A vaccination.[11] A study assessing self-reported hepatitis A and B vaccination status among MSM using an online survey found that 68.4% of 968 respondents reported not having been vaccinated against HAV. Furthermore, 79.4% of those susceptible to HAV infection reported having seen a healthcare provider in the past year. Those men whose healthcare providers recommended that they received the HAV vaccine were 12.91 times more likely to be vaccinated against HAV.[5] Of those that reported susceptibility to HAV, approximately 88% stated that their health care provider had not offered them HAV vaccination. This study demonstrates that there is significant missed opportunity among providers who see MSM to specifically educate and immunize HAV-susceptible individuals. In this setting, information technology (IT) may be a cost-effective and efficient tool leveraged to identify individuals without evidence of Hepatitis A vaccination and alert the care coordinator or provider. In one institution HPV vaccination increased by 20% with the introduction of an EMR reminder.[12] Additionally, at the patient level, IT tools can be used to tailor messaging to encourage individuals to get vaccinated.[13]

Research shows that screening for HAV antibodies among MSM prior to administering immunizations is more cost-effective than vaccinating all MSM regardless of immunity status.[11] Nevertheless, it is possible that we overestimated the number of patients non-immune to HAV. While New York City has an online vaccine record individuals may have received vaccines they were unaware of in another jurisdiction and post vaccination serologic testing may not be indicative of immunity as commercially available serologic testing is not sensitive enough to detect low but protective levels of antibody.[8] However vaccination of a person who is already immune is not harmful and given outbreaks among this high risk population would support over rather then under vaccinating.

Visits for PrEP initiation in MSM patients are potential missed opportunities for ensuring HAV vaccination among this high-risk patient population. Public health agencies could optimize HAV vaccination of the high risk MSM by incorporating HAV screening into national PrEP guidelines.

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Table 1:

Assessment of for Hepatitis A and B Vaccination Among MSM Seeking Comprehensive HIV Prevention Services at a Sexual Health Clinic

Cohort Demographics	
Patients	100
Sex with:	
Men	89
Both	11
Race/Ethnicity *	
African American	29
Hispanic	45
White	43
Asian	25
Other	1
Age at First Visit	
Mean	31
Median	29
Hepatitis A Screening	
Documentation that the patient was asked about vaccination status	100
Screening for immunity performed? (Hep A Ab or Hep B S Ab)	96
Documented immunity	56
No documented immunity	40
No documented immunity and returned for a subsequent visit	29
Patient Vaccinated **	14
Doses given	
1	10
2	3
3	1

* Patient could choose both a race and Hispanic ethnicity

** There was 1 vaccine refusal