Vaccination Response to an Ongoing Meningitis Outbreak: Uptake and Attitudes among Men Who Have Sex with Men in Los Angeles, CA

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**Background.** Men who have sex with men (MSM) are at high risk for invasive meningococcal disease (IMD). Following a 2016 IMD outbreak in Southern California, public health officials issued an advisory that young men at risk for IMD should get the meningococcal conjugate vaccine (MCV4) and all men, with all people having HIV, to obtain immunizations. Despite public health efforts to increase MCV4 coverage, uptake and acceptance among MSM remains unknown. Thus, our study sought to: (1) estimate reported MCV4 immunization among MSM in Los Angeles, CA; and (2) document the facilitators and barriers to the newest vaccination recommendation following the recent outbreak.

**Methods.** From November 2016 through February 2017, we used venue-based sampling to recruit MSM in Los Angeles (N = 513). Eligible participants completed a 30-minute iPad survey that included items on MCV4 status, sexual behavior, vaccination knowledge and behaviors among other factors. Chi-square and independent sample t-tests were used to determine bivariate associations. Statistically significant variables from bivariate analyses were included in a multivariate logistic regression model predicting MCV4 uptake.

**Results.** Participants were young (M=33, SD=10) and racially/ethnically diverse: White (35.7%), Black/African American (14.6%), Hispanic (36.5%), Asian/Pacific Islander (4.1%). Other (9.2%). Reported MCV4 immunization among MSM (25.4%) and MSM living with HIV (37.7%) was low. Statistically significant correlates of MCV4 uptake in the multivariable model were: knowing someone who had received the MCV4 vaccine (aOR=2.21), believing MCV4 vaccination was important (aOR=3.45), having confidence in the MCV4 vaccine (aOR=5.43), and knowing someone who had received the vaccination (aOR=5.79).

**Conclusion.** MSM’s perceived health risk, vaccine confidence, and knowledge of someone who received the MCV4 vaccine were important indicators of meningitis immunization in this outbreak context. Provider and public health education efforts may be enhanced by messages that emphasize personal health risks, the safety and efficacy of MCV4, and the importance of meningococcal vaccines for men’s health.

**Disclosures.** No reported disclosures.

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**1350. Vaccination Response to an Ongoing Meningitis Outbreak: Uptake and Attitudes Among Men Who Have Sex with Men in Los Angeles, CA**

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**Background.** Acute norovirus (NoV) gastroenteritis may cause significant morbidity in healthy adults and can prove fatal in older subjects. We investigated the safety and immunogenicity in older adults of one or two doses of an intramuscular bivalent virus-like particle (VLP) vaccine candidate (genotypes GI.1 and multivalent GII.4) formulated with alum and with and without MPL (3-O-desacyl-4′-monophosphoryl lipid A) adjuvant.

**Methods.** In a phase II, double-blind, controlled trial, 294 healthy adults ≥ 60 years of age randomized to 4 equal groups received one or two immunizations 28 days apart. One dose groups received placebo (saline) on Day 1. Vaccine formulations included one 50μg AK(OPV) and 50μg GII.4 VLP antigen, with or without 15μg MPL adjuvant. A fifth group of 26 healthy 18–49 year-olds received one dose of MPL-free vaccine. Humoral immunity was assessed as ELISA pan-Ig and histoblood group antigen blocking (HBGA) antibody titers at Days 1, 8, 29 and 57. Cell-mediated immunity (CMI) and avidity indices (AI) were also measured. Safety was assessed as solicited local and systemic adverse events (AE) for 7 days, and unsolicited AEs until Day 28 after each vaccination.

**Results.** Marked increases in pan-Ig and HBGA to both genotypes occurred by Day 8 after first vaccination. Geometric mean titers were similar in magnitude in all groups and persisted at similar levels through Day 56. No increases were observed with a second vaccination on Day 29 or with the formulations containing MPL. Responses were similar in magnitude when assessed by age groups (60–74, 75–84 and ≥ 85 years of age) and when compared with those to a single vaccine dose in 18–49 year-olds. No clinically relevant differences in CMI responses or changes in antibody avidity were observed between formulations. Both formulations were generally well tolerated, the most frequent reaction being mild pain at the injection site. No vaccine-related SAEs were reported.

**Conclusion.** Older adults aged 60 years displayed immune responses to NoV VLP vaccine that were similar to those in younger adults with no apparent signs of immunosenescence. These data support the further development of the MPL-free vaccine candidate in older adults.

**Disclosures.** No reported disclosures.

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**1351. Bivalent Norovirus VLP Vaccine Candidate in Older Adults: Impact of MPL and a Second Dose in a Randomized, Controlled, Double-Blind Clinical Trial**

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**Background.** Norovirus (NoV) gastroenteritis causes significant morbidity in healthy adults and can prove fatal in older subjects. We investigated the safety and immunogenicity in older adults of one or two doses of an intramuscular bivalent virus-like particle (VLP) vaccine candidate (genotypes GI.1 and multivalent GII.4) formulated with alum and with and without MPL (3-O-desacyl-4′-monophosphoryl lipid A) adjuvant.

**Methods.** In a phase II, double-blind, controlled trial, 294 healthy adults ≥ 60 years of age randomized to 4 equal groups received one or two immunizations 28 days apart. One dose groups received placebo (saline) on Day 1. Vaccine formulations included one 50μg AK(OPV) and 50μg GII.4 VLP antigen, with or without 15μg MPL adjuvant. A fifth group of 26 healthy 18–49 year-olds received one dose of MPL-free vaccine. Humoral immunity was assessed as ELISA pan-Ig and histoblood group antigen blocking (HBGA) antibody titers at Days 1, 8, 29 and 57. Cell-mediated immunity (CMI) and avidity indices (AI) were also measured. Safety was assessed as solicited local and systemic adverse events (AE) for 7 days, and unsolicited AEs until Day 28 after each vaccination.

**Results.** Marked increases in pan-Ig and HBGA to both genotypes occurred by Day 8 after first vaccination. Geometric mean titers were similar in magnitude in all groups and persisted at similar levels through Day 56. No increases were observed with a second vaccination on Day 29 or with the formulations containing MPL. Responses were similar in magnitude when assessed by age groups (60–74, 75–84 and ≥ 85 years of age) and when compared with those to a single vaccine dose in 18–49 year-olds. No clinically relevant differences in CMI responses or changes in antibody avidity were observed between formulations. Both formulations were generally well tolerated, the most frequent reaction being mild pain at the injection site. No vaccine-related SAEs were reported.

**Conclusion.** Older adults aged 60 years displayed immune responses to NoV VLP vaccine that were similar to those in younger adults with no apparent signs of immunosenescence. These data support the further development of the MPL-free vaccine candidate in older adults.

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