

## ORAL ABSTRACTS

**1339. Measles and Mumps Antibody Response in Young Adults after a Third Dose of Measles-Mumps-Rubella Vaccine**

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**Background.** Third doses of measles-mumps-rubella (MMR) vaccine have been administered in recent mumps outbreaks in highly vaccinated populations, and are routinely given in non-outbreak settings for healthcare personnel, military recruits, international travelers, and college students who may have been vaccinated as children

but who lack documentation. Yet, data on the immunogenicity of a third dose of MMR vaccine (MMR3) are limited. Thus, we assessed measles and mumps virus neutralizing antibody levels pre- and post-MMR3 in a non-outbreak setting.

**Methods.** Measles and mumps antibody levels were assessed at baseline, one month and one year after MMR3 in subjects aged 18-28 years. For mumps, titers <8 mIU/mL were considered seronegative, 8- < 16 mIU/mL were low, and ≥16 were high. For measles, concentrations <8 mIU/mL were considered seronegative, 8-120 mIU/mL were low, 121-900 mIU/mL were medium, and >900 mIU/mL were high.

**Results.** for measles, 1 (0.2%) of 662 subjects was seronegative and 23 (3.5%) had low concentrations of measles antibodies at baseline. One year post-MMR3, 10 (1.6%) subjects had low measles antibody concentrations and none were negative. For mumps, 5 (0.8%) of 656 subjects had seronegative mumps neutralizing antibody titers and 38 (5.8%) had low titers at baseline. One year post-MMR3, these numbers declined to 3 (0.5%) and 16 (2.4%), respectively. Subjects with low baseline antibody levels were more likely to have low 1-month and 1-year levels for both measles ( $R^2 = 0.54-0.68$ ,  $P < 0.0001$ ) and mumps ( $R^2 = 0.81-0.87$ ,  $P < 0.0001$ ). Compared to baseline, geometric mean concentrations/titers were significantly higher at 1-month ( $P < 0.0001$ ) and 1-year ( $P < 0.05$ ) after MMR3 for measles and mumps, however, reverse cumulative distribution curves showed only minimal shifts in measles and mumps levels from baseline to 1-month and 1-year.

**Conclusion.** Very few subjects had low or negative antibody levels for measles or mumps at baseline. Nonetheless, measles concentrations and mumps titers had modest but significant increases when measured 1-month and 1-year post-MMR3. This temporary increase in antibody levels after MMR3 could decrease susceptibility to disease during outbreaks.

**Disclosures.** All authors: No reported disclosures.