immunotherapy, was developed using ATLAS™, a high throughput system that identified HSV antigens associated with cellular immune responses in exposed seronegative and asymptomatic seropositive patients. GEN-003 contains two antigens, glycoprotein GD, which also contains the major epitopes for neutralizing antibody, and a fragment of the immediate early protein ICP4. These are combined with Matrix-M2, a saponin-based adjuvant (Novavax, Inc.).
Methods: Two clinical studies have been conducted to date enrolling otherwise healthy HSV-2 infected individuals, age 18-50, experiencing 3-9 genital herpes outbreaks annually. Subjects were immunized with various dose combinations of antigens (10 – 100 µg) and adjuvant (0-75 µg). Endpoints included safety, humoral, and cellular immunogenicity, and genital lesion rates and mucosal shedding rates before and at various timepoints after vaccination. Shedding was measured by change in percent positive swabs by HSV-2 PCR. Changes in shedding and lesion rates were analyzed using a Poisson mixed effects model.
Results and Conclusion: Treatment with GEN-003 resulted in over 50% reduction in mucosal HSV-2 shedding continuing at least 6 months after immunization and similar reduction in genital lesion rates for many dose combinations tested. Both cellular and humoral immune responses persisted at least 12 months. GEN-003 was moderately reactogenic, but side effects appeared to decrease with subsequent immunizations and were not associated with increased rates of discontinuation. There have been no related serious adverse events, autoimmune events or other adverse events of special interest. GEN-003 is a novel herpes immunotherapy associated with clinically relevant reductions in herpes lesions and asymptomatic mucosal shedding. Future plans include continued development as a herpes immunotherapy and evaluation for potential as a prophylactic vaccine.

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S7 Adverse Events Following DTaP Vaccination in the Vaccine Adverse Event Reporting System

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Objectives: Describe the main adverse events after DTaP vaccines reported in the Vaccine Adverse Event Reporting System (VAERS). List the strengths and limitations of spontaneous reporting systems such as VAERS for monitoring adverse events after vaccination. Explain the types of analysis used to assess the safety of DTaP vaccines in a spontaneous reporting system such as VAERS.
Background: In 1997, ACIP recommended DTaP for all five doses in the childhood vaccination schedule. There are currently five DTaP vaccines used in the United States: (Daptacel®, Infanrix®, Kinrix®, Pediarix®, Pentacel®). Few post-licensure studies have been conducted to assess the safety of these vaccines. The objective of this study was to assess the safety of DTaP vaccines in VAERS during 1/1/1997–7/31/2015.
Methods: We searched the VAERS database for US reports of adverse events (AEs) among persons who received DTaP during 1/1/1997–7/31/2015. All reports of death were reviewed, and we reviewed a random sample of reports and accompanying medical records for non-death serious reports (life-threatening illness, hospitalization, prolongation of existing hospitalization, or permanent disability). Physicians assigned a primary clinical category to each reviewed report.
Results and Conclusion: During the study period VAERS received 46,441 reports following DTaP vaccination; 5,201 (11%) were coded as serious which included 793 deaths. The most frequent cause of death was sudden infant death syndrome [SIDS] (338; 49.6%). 44,061 (95%) reports involved children aged < 6 years. DTaP vaccines

were administered concurrently with one or more other vaccines in 40,868 (88%) reports. The median time from vaccination to onset of an AE for both serious and non-serious reports was 1 day. The most frequently reported AEs were injection site erythema (11,879; 26%), pyrexia (9,225; 20%), injection site swelling (6,964; 15%), erythema (5,339; 12%), and injection site warmth (4,468; 10%).

Review of VAERS reports did not identify any new or unexpected safety concerns for DTaP vaccines. The reported causes of death are consistent with those for US infants, among whom SIDS is the fourth leading cause but is the leading cause that is not present/cannot be identified at birth.

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S8

Surveillance of Adverse Events Following Immunization with Influenza Vaccines in Canada, 2012-15

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Objective: Review adverse events following immunization (AEFIs) reported to the Canadian Adverse Event Following Immunization Surveillance System (CAEFISS) in 2014-15 and compare these with the previous two influenza seasons.

Background: Annual influenza vaccination campaigns are implemented with a potentially different vaccine composition.[1] The introduction of a different vaccine warrants enhanced surveillance for adverse events following immunization (AEFIs), defined as untoward or unexpected events which follow vaccination but which are not necessarily causally related.[2]

Methods: All AEFI reports submitted to CAEFISS following an influenza vaccine administered between September 1st and March 31st for each of the three seasons were extracted. Each report underwent processing including MedDRA terminology coding and medical case review to assign a primary adverse event as main reason for reporting using Brighton collaboration' case definitions. AEFIs were analysed by age, gender, season, administered vaccine(s), main reason for reporting, and severity, presented as frequencies, proportions, and reporting rates per million doses distributed. Data cover nine provinces and three territories.

Results and Conclusion: In 2014-15, over 8 million vaccine doses were distributed among reporting jurisdictions. CAEFISS received 661 AEFI reports (reporting rate=63). Forty-two (6%) were serious, of which 39 were hospitalized and three were fatal outcomes unlikely related to vaccination. Females were predominant (73%), with mean age 39 years (median 41). The two most frequent reasons for reporting were vaccination site and allergic reactions among all age groups and both genders during all three seasons studied. This result was also consistent across vaccine brands except live attenuated influenza vaccine where localized rashes were reported along with allergic reactions. The reporting rate was less in 2014-15 compared to the previous two seasons. However, the severity level proportions were comparable across all three seasons. Age and gender distributions, severity level proportions and the pattern observed for main reason for reporting were similar across all seasons. The reporting rate was lower during 2014-15, suggesting lower reporting during this season. No safety concern was observed; nevertheless, close monitoring of influenza AEFIs during each season and feed-forward to global vaccinovigilance networks remain crucial components of post-market surveillance.

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