VAXXED

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The Science (Part 9)

Children's Health Defense
Pandemrix Flu Shot Increases Odds of Narcolepsy by 14.4X in Children and Adolescents

Odds of Narcolepsy Diagnosis After Pandemrix Flu Shot

- Narcolepsy within 6 months of vaccination
  - Vaccinated: 14.4
  - Unvaccinated: 1
- Narcolepsy any time after vaccination
  - Vaccinated: 16.2
  - Unvaccinated: 1

Miller et al. 2013 British Medical Journal
doi: 10.1136/bmj.f794

“The increased risk of narcolepsy after vaccination with ASO3 adjuvanted pandemic A/H1N1 2009 vaccine indicates a causal association, consistent with findings from Finland.”
Influenza Vaccination Increases Inflammatory Response by 39% in Pregnant Women

Influenza responses to trivalent influenza virus vaccine among pregnant women.

Objective: In the U.S., seasonal trivalent influenza virus vaccine (TIV) is currently universally recommended for all pregnant women. However, data on the maternal inflammatory response to vaccination is lacking and would better delineate the safety and clinical utility of immunization. In addition, for research purposes, vaccination has been used as a mild immune trigger to examine in vivo inflammatory responses in nonpregnant adults. The utility of such a model in pregnancy is unknown. Given the clinical and empirical justifications, the current study examined the magnitude, time course, and variance in inflammatory responses following seasonal influenza virus vaccination among pregnant women.

Method: Women were assessed prior to and at one day (n=15), two days (n=10), or approximately one week (n=21) following TIV. Serum interleukin (IL)-6, tumor necrosis factor (TNF)-α, C-reactive protein (CRP), and macrophage migration inhibitory factor (MIF) were determined by high sensitivity immunoassay.

Results: Significant increases in CRP were seen at one and two days post-vaccination (p<.05). A similar effect was seen for TNF-α, for which an increase at two days post-vaccination approached statistical significance (p=.08). There was considerable variability in the magnitude of response, coefficients of variation for change at two days post-vaccination ranged from 122% to 736%, with the greatest variability in IL-6 responses at this time point.

Conclusion: Trivalent influenza virus vaccination elicits a measurable inflammatory response among pregnant women. There is sufficient variability in response for testing associations with clinical outcomes. As adverse perinatal health outcomes including preclampsia and preterm birth have an inflammatory component, a tendency towards greater inflammatory responding to immune triggers may predict risk of adverse outcomes, providing insight into biological mechanisms underlying risk. This inflammatory response elicited by vaccination is substantially milder and more transient than seen in infectious illness, arguing for the clinical value of vaccination. However, further research is needed to confirm that the mild inflammatory response elicited by vaccination is benign in pregnancy.

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“(...) this study demonstrates that trivalent influenza virus vaccine (TIV) elicits a measurable inflammatory response during pregnancy, and that considerable variability is seen between women in the magnitude of this response.”
Influenza Vaccination Increases Inflammatory Response by 173% and Induces Platelet Activation and Cardiac Imbalance

Lanza et al. 2011 J Intern Med
doi: 10.1111/j.1365-2796.2010.02285.x

“Together with an inflammatory reaction, influenza A vaccine induced platelet activation and sympathovagal imbalance towards adrenergic predominance... The vaccine-related platelet activation and cardiac autonomic dysfunction may transiently increase the risk of cardiovascular events.”
Influenza Vaccination Increases Susceptibility to and Damage Caused by Non-Target Flu Strains

**Vaccine-Induced Anti-HA2 Antibodies Promote Virus Fusion and Enhance Influenza Virus Respiratory Disease**

Surender Khurana, Crystal L. Loving, Jody Manischewitz, Lisa R. King, Phillip C. Gauger, Jamie Henningson, Amy L. Vincent, Hana Golding

Vaccine-induced disease enhancement has been described in connection with several viral vaccines in animal models and in humans. We investigated this model to evaluate mismatched influenza vaccine-associated enhanced respiratory disease (YAESD) after pH1N1 infection. Vaccinating pigs with whole inactivated H1N2 (human-like) virus vaccine (WIV-H1N2) resulted in enhanced pneumonia and disease after pH1N1 infection. WIV-H1N2 immune sera contained high titers of cross-reactive anti-pH1N1 hemagglutinin (HA) antibodies that bound exclusively to the HA2 domain but not to the HA1 globular head. No hemagglutination inhibition titers against pH1N1 (challenge virus) were measured. Epitope mapping using phage display library identified the immunodominant epitope recognized by WIV-H1N2 immune sera as amino acids 22 to 72 of pH1N1-HA2 domain, close to the fusion peptide. These cross-reactive anti-HA2 antibodies enhanced pH1N1 infection of Maci-Darby canine kidney cells by promoting virus membrane fusion activity. The enhanced fusion activity correlated with lung pathology in pigs. This study suggests a role for fusion-enhancing anti-HA2 antibodies in YAESD, in the absence of receptor-blocking virus-neutralizing antibodies. These findings should be considered during the evaluation of universal influenza vaccines designed to elicit HA2 stem-targeting antibodies.

Khurana et al. 2013 Sci Translational Med
DOI: 10.1126/scitranslmed.3006366

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"Vaccinating pigs with whole inactivated H1N2 (human-like) virus vaccine (WIV-H1N2) resulted in enhanced pneumonia and disease after pH1N1 infection."
Influenza Vaccination Increases Hospitalizations in Asthmatic Patients by 2.97X

"In assessing the effectiveness of the TIV for preventing hospitalization with influenza in all subjects, there was an overall trend towards higher rates of hospitalization in subjects who got the TIV as compared to the ones who did not get the TIV (OR: 2.97, CI: 1.3, 6.7)."
Primary Immunization of Premature Infants with Gestational Age <35 Weeks: Cardiorespiratory Complications and C-Reactive Protein Responses Associated with Administration of Single and Multiple Separate Vaccines Simultaneously

Objective To determine the incidence of cardiorespiratory events and abnormal C-reactive protein (CRP) level associated with administration of a single vaccine or multiple separate vaccines simultaneously.

Study design Prospective observational study on 239 preterm infants at ≥2 months of age in the neonatal intensive care unit (NICU). Each infant received either a single vaccine or multiple vaccines on one day. CRP levels and cardiorespiratory manifestations were monitored for 3 days following immunization.

Results Abnormal elevation of CRP level occurred in 58% of infants administered multiple vaccines and up to 70% of those given a single vaccine. Overall, 16% of infants had vaccine-associated cardiorespiratory events within 48 hours postimmunization. In logistic regression analysis, abnormal CRP values were associated with multiple vaccines (OR, 18.71; 95% CI 5.10-61.77) and severe intraventricular hemorrhage (IVH) (OR, 2.89; 95% CI 1.02-8.13). Cardiorespiratory events were associated marginally with receipt of multiple injections (OR, 3.62; 95% CI 0.99-13.25) and significantly with gastroesophageal reflux (GER) (OR, 4.76; 95% CI 1.22-18.52).

Conclusion CRP level is expected to be elevated in the 48 hours following immunization. In a minority of infants immunized, cardiorespiratory events were associated with presumed need for intervention. Underlying medical conditions and possibly multiple injections are associated with cardiorespiratory events. Precautionary monitoring following immunizations is warranted. (J Pediatr 2007;151:67-72)


"Cardiorespiratory events were associated marginally with receipt of multiple injections (OR, 3.62; 95% CI 0.99-13.25) and significantly with gastroesophageal reflux (GER) (OR, 4.76; 95% CI 1.22-18.52)."