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ABSTRACTS OF SUBMITTED PRESENTATIONS

S17 Cross-Clade Conservation of HIV-1 CTL Epitopes in the Aidsvax[®] and Aventis CP205[™] Vaccines

Neel K. Shah¹, Michael J.B. Gonzalez¹, Andrew Bosma¹, Kenneth H. Mayer^{2,3}, Anne S. De Groot^{1,2,3}

¹TB/HIV Laboratory, International Health Institute, Brown University, Providence, RI 02912;

²Division of Infectious Disease, Memorial Hospital of Rhode Island, Pawtucket, RI 02860

³Brown University AIDS Program (BRUNAP), Brown University, Providence RI

Background: Most HIV-1 vaccines currently undergoing evaluation in clinical trials are formulated based on clade B HIV-1 strains, which account for only approximately ten percent of infections worldwide.

Methods: We evaluated class-I restricted T cell epitopes derived from two of the primary HIV-1 vaccine candidates for conservation across the strains of the eight most common (A-H) clades of HIV-1 contained in the Los Alamos National Laboratory Database (1999). We searched the vaccine sequences for published epitopes and novel epitopes that had been extensively studied by the TB/HIV Research Laboratory in binding assays and CTL assays. HLA prevalence data was obtained from the 11th IHW report. Relevance coefficients (RC, ranging from 0 to 1, reflecting the prevalence of the HLA allele in the populations and overall the conservation of the epitope) were calculated for each of the epitopes contained in the sequences of the vaccines. Relevance coefficients predict the probability that an individual from a certain population would be infected by a circulating strain of HIV containing a specific epitope included in the candidate vaccines; and II-possess the HLA allele(s) necessary to present the putative epitope to cytotoxic T-lymphocytes (CTL).

Results: 36 of 50 evaluated epitopes and 28 of 40 evaluated epitopes included in the Aventis and Aidsvax vaccines, respectively, were well conserved in clades A and B. Putative epitope EMMTACQGVG presented on the HLA-A2 allele, had the single highest RC of .51 in the Thai population. The epitope LLDTGADDTV, restricted by HLA-A2, was the most relevant epitope for USA (white) populations and the Chinese (Southern Han) populations (RC of .171 and .203, respectively). In addition, LLDTGADDTV had the highest relevance to the Zairean and Indian populations (RC .083 and .073 respectively), however, these RC were low, suggesting the vaccines would offer little protection in Zairean and Indian individuals.

Interpretation: This study establishes a paradigm for evaluating candidate vaccines in selected populations and suggests that further studies (e.g. *in vitro* effector T-cell assays) will be required to determine whether existing vaccines against HIV-1 will be appropriate in the global context of HIV/AIDS.

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S19 INCIDENCE AND CLINICAL PRESENTATION OF A NEW OCULO-RESPIRATORY SYNDROME ASSOCIATED WITH INFLUENZA VACCINE

N. Boulianne^{1,2}, G. De Serres^{*1,2}, B. Duval^{1,2}, R. Shadmani², L.Rochette²

1 Institut national de santé publique du Québec, Quebec, Canada, 2 Public Health Research Unit, CHUQ-CHUL, Laval University, Quebec, Canada

Introduction: In Canada in fall 2000, many patients vaccinated against influenza presented a set of symptoms involving both the eyes and the respiratory tract after the injection of one particular influenza vaccine. This oculo-respiratory syndrome (ORS) has not been previously reported and we documented its incidence and its clinical presentation.

Methods: A retrospective study was conducted in a cohort of 1677 vaccinees. To be a case, patient had to develop a bilateral conjunctivitis, a respiratory distress or both of these symptoms within 24 hours after their vaccination. Were not included as cases, those who had respiratory symptoms before their vaccination and those with evidence of upper respiratory tract infection starting after their vaccination.

Results: Among the 1200 participants (73% participation rate), the overall attack rate was 3.4%. This rate was strongly modified with age varying from 7.9% (CI 95% 5.7-11.1) in those 40-59 years old to less than 1% in those \geq 65 years. One third of cases had conjunctivitis only, one third respiratory symptoms only and one third had both. Symptoms started between 2 and 6 hours after vaccination in 71% of cases and they disappeared in less than 48 hours in 95% of cases. Dry cough, sore throat and rhinorea each occurred in one third of cases. ORS was twice as frequent in women as in men. The risk of ORS was not modified by the number of previous doses of vaccine. Approximately 10% of cases consulted a physician and none was hospitalized.

Conclusion: ORS affected a significant proportion of younger adults. ORS is characterized by well defined symptoms, the timing of their onset and by their duration.

S18 Passive immunity to rotavirus as an alternative to direct oral vaccine.

Pacyna J*¹, Davidson G.P.², Terry S.J.¹, Siwek K.¹, Robertson E.S.¹ and Johnson R.B.¹, ¹NorthField Laboratories Pty Ltd., South Australia 5086, ²Department of Gastroenterology, WCH, North Adelaide, South Australia 5006.

In view of recently described complications associated with oral rotavirus vaccine we describe two study investigating alternative means of protection using antirotavirus antibody derived from hyperimmune bovine colostrum (HBC-R). In the first study we examined the efficacy of HBC-R in the prevention of rotavirus diarrhea. Children (n=742) from 22 childcare centres in Adelaide participated in the study for 20 weeks. Participants were divided into three groups and received product 3 times per day. The active group received HBC-R, control group received whole milk and monitored group did not receive either product. Statistical analysis showed a significant reduction in the incidence of rotavirus diarrhoea (p=0.018), in the group receiving milk supplemented with HBC-R. In our second study we examined the survival of orally administered antibody. A smaller group of children (n=105) was divided into 5 study groups. Three groups received different levels of rotavirus antibody in a liquid form of HBC-R one group received reconstituted powder form of HBC-R (*Gastrogard-R*) and the control group received whole milk only. Antibody activity was detected in 86% of fecal samples from subjects consuming the product supplemented with HBC-R.

A strong relationship (r=0.81) was defined between the level of antibody and level of antibody activity detected in the faeces. Our studies support the hypothesis that antirotavirus antibody administered orally can protect children from rotavirus infection. Passive immunity using HBC-R can be considered as a cost effective alternative in protecting the children at risk from rotavirus infection.

S20 The Incidence of Oculo-Respiratory Syndrome (ORS) in Health Care Workers Following Influenza Vaccination

D. Skowronski,¹ D MacDonald,¹ E Husain,² J Macnabb,¹ E Galanis,³ A King,³ R Parker,⁴ P Daly⁵

Introduction: More than 400 reports of oculo-respiratory syndrome (ORS) following influenza vaccination have been made to the BC Centre for Disease Control during the 2000-2001 season. Most have been from young adults aged 20-59 years. ORS is defined as bilateral conjunctivitis and/or respiratory symptoms and/or facial edema beginning 2-24 hours following vaccination with resolution within 48 hours. We compare the incidence of ORS following influenza vaccination this season amongst health care workers to that of previous years and to that of the unvaccinated.

Methods: Self-administered surveys in two health care facilities compare the incidence of ORS amongst 310 vaccinated and 310 unvaccinated staff. A third separate survey compares the incidence of ORS this season to that of the prior five years amongst nearly 300 vaccinated staff. Survey questions include immunization and allergy history and symptom experience, including onset and duration, over a several week period.

Results: Overall, conjunctivitis, respiratory symptoms or both were experienced by 3%, 6% and 2% respectively of surveyed staff following influenza vaccine this season. Eye symptoms with or without respiratory complaint were reported significantly more often amongst the vaccinated than the non-vaccinated. Eye symptoms were also reported significantly more often this season than during any of the prior five seasons by vaccinated staff.

Conclusions: The experience of ORS in young healthy persons following influenza vaccine this season is quantitatively different from that following vaccination in previous years or that of the non-vaccinated.

¹BC Centre for Disease Control; ²BC Children's Hospital; ³Division of Immunization, Health Canada; ⁴Simon Fraser Health Region; ⁵Vancouver Richmond Health Region.