19.030

Evaluation of Quadrivalent HPV 6/11/16/18 Vaccine Efficacy Against Cervical Disease in Subjects with Prior Vaccine HPV Type Infection

D. Ferris

Medical College of Georgia, Augusta, GA, USA

Objective: In the international clinical program for the quadrivalent (types 6/11/16/18) HPV vaccine, 73% of women aged 16—26 were naïve to all vaccine HPV types. In these women, prophylactic administration of the vaccine was highly effective in preventing HPV 6/11/16/18-related cervical disease. In contrast, the vaccine did not demonstrate therapeutic efficacy. At the time of vaccination, 15% of women had evidence of past cleared infection with one or more vaccine HPV types (seropositive and DNA negative). Here we present an analysis in this group of women to determine the efficacy of the HPV 6/11/16/18 vaccine against new cervical disease related to the same vaccine HPV type which had previously been cleared.

Materials and Methods: 18,150 women were enrolled in 1 of 3 large clinical studies. Data are representative of a subset of these subjects who were HPV seropositive and DNA negative at enrollment (for $\geq$1 vaccine type). In each study, subjects were randomized in a 1:1 ratio to receive HPV 6/11/16/18 vaccine or placebo at day 1, month 2 and month 6. Procedures performed for efficacy data evaluation included detailed genital examination, Pap testing, and collection of cervicovaginal specimens. Analyses of efficacy were carried out in a prophylactic population stratified by HPV serology and cervical DNA status on day 1.

Results: Subjects were followed for an average of 44 months. Seven subjects in the placebo group developed cervical disease related to a vaccine HPV type they had previously encountered and cleared. No subject receiving HPV 6/11/16/18 vaccine developed disease to a vaccine HPV type to which they were seropositive and DNA negative at enrolment (vaccine efficacy: 100% (95% CI: 28.7, 100.0).

Conclusion: These results suggest that infection-elicited antibodies may not provide complete protection over time, and that HPV 6/11/16/18 vaccine may prevent recurrence of disease with vaccine HPV types.

doi:10.1016/j.ijid.2008.05.376

19.031

The Effectiveness of the Universal Infant Immunization Against Hepatitis B in Bulgaria

M. Kojouharova*, A. Kurchatova

National Centre of Infectious and Parasitic Diseases, Sofia, Bulgaria

Background: Bulgaria is a country in an area of intermediate endemicity of Hepatitis B viral (HBV) infection, with 3-5% HBV carrier prevalence and more than 30% of the population with serological evidence of HBV infection. Because of the evidence of occurrence of perinatal transmission (up to 23.4% of carrier mothers were HBeAg positive), a strategy for selective immunization of high risk newborns to HBV carrier mothers was implemented from January 1988 to July 1991, when Bulgaria was one of the first countries having decided to adopt routine universal infant HBV vaccination, starting as early as August 1991. Since that time, the effectiveness of Hepatitis B immunization programme has been subject to a nation-wide, prospective surveillance. The aim of the present study is to analyze the changes in HBV epidemiology 16 years after the start of the programme for routine infant HBV vaccination.

Methods: The analysis is based on the data for age-specific annual incidence of acute clinically manifested cases of HBV infection, obtained from the National communicable disease surveillance system which is requiring compulsory notification and laboratory confirmation of all acute HBV cases. The data on immunization coverage are obtained from the Immunization information system.

Results: Before the introduction of the immunization, the incidence of HBV infection in newborns and children 1—3 years of age was 31.1 and 31.6 per 100 000, respectively. The incidence was highest in persons 4—7, 15—19 and 20—29 years of age: 59.9; 50.0 and 50.2 per 100 000, respectively. During 1988—1991, the period of selective immunization, the HBV incidence declined (40.9%) only in infants. The greatest decline of acute Hepatitis B in Bulgaria occurred 16 years after the start of the universal infant vaccination. Among children 0 to 14 years of age, HBV incidence was 2.6 per 100 000 in 2007 and the decline (94.2%) coincided with the increase of the cumulative number of immunized infants. As of 2007, a total of 1 068 240 children had been fully vaccinated with 3 doses of HBV vaccine.

Conclusion: To date, the immunization strategy focusing on universal infant vaccination beginning at birth has been implemented with considerable success in Bulgaria.

The introduced in 1992 immunization programme dramatically reduced the incidence of acute Hepatitis B in targeted age groups; this effect will be fully achieved in 2011, when all adolescents up to 19 years of age will be immunized.

doi:10.1016/j.ijid.2008.05.377

19.032

Boutonneuse Fever Issues in Constantza County

S. Rugina

Ovidiu University, Constantza, Romania

Introduction: Boutonneuse fever is an eruptive disease endemic in Mediterranean basin. Constantza, remain the most important rickettsian endemic zone because the climacterics conditions and the increased number of stray dogs.

Material and methods: The diagnostic was made on clinical and epidemiological dates.

Results: 80% of patients recognized the presence of the dog, and 45% the bites or presence of the ticks. 78% of cases were from urban environment. The adults were prevalent affected 86%, 2:1 for women, children made easy form and the adults' medium. Few cases were severe, with neurological complications. The clinical evolution of the patients with treatment was favorable, improvement of the illness appeared after 3-4 days. The number of cases continuously

increase, the situation of cases with Boutonneuse fever during last 15 years were:

Year - (No. of cases) 1991 - (3); 1992 - (6); 1993 - (12); 1994 - (26); 1995 - (24); 1996 - (27); 1997 - (21); 1998 - (30); 1999 - (68); 2000 - (13); 2001 - (30); 2002 - (17); 2003 - (14); 2004 - (16); 2005 - (99); 2006 - (61); 2007 - (25)

Conclusions: The monthly distribution of this disease reflects seasonality of this affection, according with maximum period of thick spreading and human contact with them. The year 2001 as 2000 register in June, especially July and August the pick of morbidity, according to period of maximum spread of ticks and human contacts with them and for these years temperatures over the multiannual average.

doi:10.1016/j.ijid.2008.05.378

19.033

Surveillance of Adverse Events Following Immunization (AEFI) with Human Papillomavirus (HPV) Vaccine in Canada (Sep. 2006 — Dec. 2007)

J. Nkanza

Public Health Agency of Canada, Ottawa, Canada

Background: The Quadrivalent HP Recombinant Vaccine, Gardasil™ was approved in Canada in July 2006 and has been in use since September 2006. Gardasil is offered to females between 9 and 26 years of age. The aim of this vaccine is to prevent the diseases associated with HPV types 6, 11, 16, 18 (cervical cancer and anogenital warts). Some jurisdictions have already included this vaccine in their school based immunization program.

Methods: All Adverse Event Following Immunization reports received by the Public Health Agency of Canada through passive and active surveillance programs were reviewed and included in the analysis.

Results: A total of 148 reports of AEFI was received by the Agency between September 2006 and December 2007, with a reporting rate estimated at 38/100,000 doses distributed. In majority of cases (97.4%) HPV vaccine was the only vaccine given.

The age ranged from 10 to 45 years old with median at 18.0 and StD 5.8 years.

The most commonly reported AEFIs were injection site pain (20%), other injection site reactions (8%), nausea (8%); dizziness, headache, rash and vomiting (each 7.5%), urticaria (7%); and diarrhea, fever, rash and syncope (each 6%). There were two reports of serious AEFIs - one anaphylactic reaction and one encephalopathy.

Medical attention was sought by 51 cases (35%), including 4 hospitalizations, 10 emergency room visits and 37 outpatient visits. The outcome was reported in 58 reports (40%), of which 41 reported full recovery, 10 recovering, and 7 reported some residual effect at the time of reporting.

Conclusion: Gardasil is considered a safe vaccine in Canada. AEFIs reported following this vaccine were mainly minor injection site reactions and mild systemic events. AEFI data collected through the Canadian active and passive surveillance programs have been consistent with the data obtained from the pre-licensure clinical trials.

doi:10.1016/j.ijid.2008.05.379

19.034

Safety and Reactogenicity of a 10-Valent Pneumococcal Non-Typeable *Haemophilus influenzae* Protein D-Conjugate Vaccine (PHiD-CV) in Filipino Infants

N. Bermal[1,*], E. Alberto[1], M. Hernandez[1], V. Pau[2], A. Fanic[3], H. Bock[4], I. Dieussaert[3], L. Schuerman[3]

[1] *Research Institute for Tropical Medicine, Muntinlupa City, Philippines*
[2] *Bulihan Rural Health Unit (RHU), Bulihan, Silang Cavite, Philippines*
[3] *GlaxoSmithKline Biologicals, Rixensart, Belgium*
[4] *GlaxoSmithKline Biologicals (Singapore), Singapore, Singapore*

Background: Safety and reactogenicity of the candidate 10-valent Pneumococcal non-typeable *Haemophilus influenzae* Protein D-conjugate vaccine (PHiD-CV, GlaxoSmithKline Biologicals), designed to protect infants against pneumococcal and non-typeable *Haemophilus influenzae* diseases, were evaluated when co-administered with DTPw-HBV/Hib and OPV vaccines at 6—10—14 weeks of age (EPI schedule) in the Philippines.

Methods: In this double-blind, controlled study (107007/NCT00344318), 400 healthy Filipino infants 6 to 12 weeks old were randomized (3:1) to receive either PHiD-CV or licensed 7vCRM vaccine (*Prevenar*™/*Prevnar*™), both co-administered with DTPw-HBV/Hib + OPV. Solicited local (pain, redness, swelling), general (fever, drowsiness, irritability, loss of appetite) and unsolicited symptoms as well as serious adverse events (SAEs) were recorded after each vaccination. Intensity was assessed on a scale from 1—3.

Results: The most frequently reported solicited local grade 3 symptoms were pain following 9.4% of vaccine doses in both groups and swelling following 9.3% (PHiD-CV) and 8.1% (7vCRM) vaccine doses. Irritability was the most frequently reported solicited general grade 3 symptom following 2.9% (PHiD-CV) and 2.4% (7vCRM) vaccine doses. Observed overall/dose incidence of fever (rectal temperature $\geq$38 °C) was within the same range in both groups (PHiD-CV: 60.9%; 7vCRM: 63.0%) with no cases of rectal fever >40 °C. Seven infants reported at least one SAE: 6 in the PHiD-CV group and 1 in the 7vCRM group. None of them was assessed by the investigator to be causally related to vaccination and all resolved without sequelae.

Conclusion: No clinically relevant differences were observed between the safety and reactogenicity profiles of PHiD-CV and 7vCRM vaccines.

doi:10.1016/j.ijid.2008.05.380

19.035

A Study to Estimate the Incidence and Percentage of Vaccination Coverage of Measles in Under 5 Children in Slums of Madipur, (West) Delhi

A. Choudhry

National Institute Of Communicable Diseases, New Delhi, India

Background: Measles has been universally known as a major child health problem and a killer of children mainly