Conclusion: In a database of several thousand adolescents and adults, Menveo® induced significant immune responses, as assessed by hSBA, without evidence of clinically significant interference when co-administered with recommended adolescent vaccines. Responses to Menveo® were statistically non-inferior or higher compared with previously licensed comparators.

536

CAT: IN HIGH-RISK INFANTS HOSPITALISED WITH BRONCHIOLITIS, IS THE USE OF PALIVIZUMAB (IG) VACCINE WARRANTED?

S. Masand[1,2], P.Y. Xiu[2,3], T.B. Stoker[3], M. Masand[4]

[1]King's College London Medical School, London, [2]Department of Pharmacology, University of Cambridge, [3]University of Cambridge Medical School, Cambridge, [4]Department of Paediatrics, NHS Grampian Dr Gray's Hospital, Elgin, UK

Introduction: RSV bronchiolitis results in the hospitalisation of thousands of infants each year. Treatment is predominantly supportive, but palivizumab (humanised monoclonal anti-RSV antibody) administration can provide passive protection.

Objectives: To analyse experimental literature to determine whether palivizumab administration is warranted and safe in high-risk infants hospitalised with bronchiolitis. The outcomes assessed included viral titres, duration of hospitalisation, hospitalisation rates, and prospective incidence of recurrent wheezing.

Methods: Cochrane library- searched with terms "Palivizumab" and "bronchiolitis";

PubMed- searched with MeSH terms "Palivizumab" and "bronchiolitis"

Results: Palivizumab prophylaxis resulted in significant reduction in hospitalisation rates (1%) compared to in non-prophylaxed seasons (13.5%), and the numbers needed to treat to avoid one hospitalisation was 13 (95% CI: 4-8).

Prospective observation studies, suggested that prophylactic administration of palivizumab effectively reduced admissions to hospital due to re-infection.

Incidence of recurrent wheezing and physician-diagnosed recurrent wheezing was significantly lower in antibody-treated subjects (13% and 8% respectively) compared with untreated subjects (26%, P=0.01 and 16%, P=0.011 respectively).

Injection site reactions were uncommon (1.8% in the placebo group compared to 2.7% in the palivizumab group). Mild or moderate elevations of ALT occurred in 1.6% of placebo and 3.6% of palivizumab recipients.

Conclusion: Palivizumab use is warranted in pre-term infants hospitalised with bronchiolitis. The primary demonstrated benefit is a reduction in hospital admission rates. Further work is necessary to determine the safety of palivizumab, and the efficacy in high-risk infants (e.g. those with broncho-pulmonary dysplasia). The cost-effectiveness of palivizumab administration in a UK health care setting must be assessed.

537

RELATIVE EFFICACY OF LIVE ATTENUATED AND INACTIVATED INFLUENZA VACCINES IN CHILDREN AS A FUNCTION OF TIME POSTVACCINATION

R.B. Belshe[1], C.S. Ambrose[2], X. Wu[2], **R. Pilsudski**[3]

[1]St. Louis University School of Medicine, St. Louis, MO, [2]MedImmune, LLC, Gaithersburg, MD, USA, [3]AstraZeneca, Paris, France

Aims: To examine the relative efficacy of live attenuated influenza vaccine (LAIV) and trivalent inactivated influenza vaccine (TIV) as a function of time post-vaccination from three large randomized studies that compared the efficacy of LAIV and TIV in children. LAIV is approved for use in eligible individuals 2 to 49 years of age in the U.S., Israel, Hong Kong, Macau, and South Korea.

Methods: Relative efficacy of LAIV vs. TIV against culture-confirmed influenza was calculated by time-interval (0-4 and >4-8 months postvaccination) for matched strains, the studies' primary endpoint. Match for B viruses in Study 1 was based on genetic sequence as serology was less reliable.

Results: In each study, LAIV recipients had less influenza than TIV recipients in both time intervals and the relative efficacy of LAIV vs. TIV increased from 0-4 months to 4-8 months.

			Relative Efficacy of LAIV vs TIV (95% CI)	
Study	Age	N	Early (0–4 mo)	Late (4–8 mo)
Belshe et al	6–59 mo	7852	60% (-10, 87)	89% (53, 99)
Ashkenazi et al	6–71 mo	2085	34% (-56, 74)	61% (25, 80)
Fleming et al	6–17 y	2211	25% (-23, 54)	49% (1, 74)
Combined		12148	34% (3, 55)	62% (42, 76)

[Table]

Conclusions: For matched strains, the available data suggest that the relative efficacy of LAIV vs. TIV in children increases over time. Further research is needed to confirm these findings and to characterize the duration of protection provided by TIV in children. Sponsored by MedImmune.

538

SEVERITY OF BREAKTHROUGH INFLUENZA ILLNESS AMONG CHILDREN AND ADULTS RECEIVING LIVE ATTENUATED INFLUENZA VACCINE AND TRIVALENT INACTIVATED INFLUENZA VACCINE

R.B. Belshe[1], C.S. Ambrose[2], **R. Pilsudski**[3]

[1]St. Louis University School of Medicine, St. Louis, MO, [2]MedImmune, LLC, Gaithersburg, MD, USA, [3]AstraZeneca, Paris, France

Aims: The efficacies of live attenuated influenza vaccine (LAIV) and trivalent inactivated influenza vaccine (TIV) have been evaluated in children and adults in multiple studies; however, vaccine impact on illness severity has not been examined. This analysis compared illness severity among LAIV and TIV recipients who developed influenza illness using data from existing randomized studies. LAIV is approved for eligible individuals 2-49 years of age in the United States, Israel, Hong Kong, Macau, and South Korea.

Methods: Three studies in children, one wild-type challenge study in adults 18-45 years, and one study in adults ≥60 years compared LAIV and TIV efficacy and collected symptom duration and severity.

Results: In 2 studies of children < 6 years, a higher proportion of LAIV versus TIV breakthroughs were afebrile: 22% vs. 12% (P=0.001) and 28% vs. 5% (P=0.005). In one study, LAIV breakthroughs missed 1.6 (95% CI: 2.9, 0.2) fewer days of school/daycare and had less antibiotic use (17% LAIV vs. 33% TIV, P=0.11). No differences were seen in a study of children 6-17 years. In the adult challenge study, LAIV vaccinees tended to have lower mean symptom scores versus TIV and placebo recipients (2.7, 5.7, 9.2, respectively, P=NS except LAIV vs placebo). In the older adult study, LAIV breakthroughs had less feverishness (14% LAIV vs 46% TIV, P=0.05).

Conclusions: Among younger children, LAIV recipients who develop breakthrough influenza have less severe illness than TIV recipients. The same may be true among adults; however, more research is needed. Sponsored by MedImmune.

539

THE INFLUENCE OF PROBIOTICS ON THE IMMUNOLOGIC RESPONSE TO VACCINATIONS IN INFANTS: A DOUBLE BLIND, PROSPECTIVE, PLACEBO CONTROLLED PILOT STUDY

I. Youngster[1,2], E. Kozer[1,2], M. Goldman[1,2]

[1]Pediatric Division, Assaf Harofeh Medical Center, Zerifin, [2]Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

Background: Probiotics have been shown to be immunomodulatory and can affect antibody responses following vaccination. Several immunizations are associated with sub-optimal seroconversion rates leaving a substantial part of the population exposed to infection.

Objectives: to evaluate the influence of probiotic supplementation on the immune response of infants following Mumps, Measles, Rubella and Varicella vaccination.

Study design: a randomized, placebo-controlled, double blinded prospective trial was performed in a cohort of healthy infants. Study subjects were randomly assigned to receive probiotics or placebo for a total of five months, starting two months prior to vaccination. Antibody levels against vaccine components were measured three months after