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Medical Focus - Avian Flu Essentials

November 18, 2005

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"Nothing in life is to be feared It is only to be understood." – Marie Curie

Dear Colleague:

In the third letter in the Avian Flu Essentials series, I will elaborate on the topic of vaccines, including the characteristics that differentiate regular trivalent vaccines from universal ones.

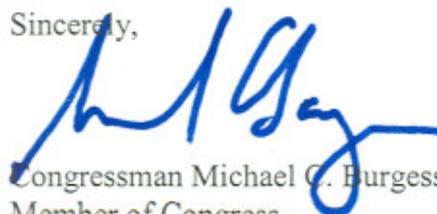
A trivalent vaccine is composed of three different viral strains. Every year, the World Health Organization selects three existing flu strains that are expected to yield the greatest number of influenza cases during the cold season. These reference or seed strains are distributed to manufacturers who then create vaccines or flu shots to provide people some immunity against those viruses.

Some scientists are instead focusing their efforts on developing a universal vaccine, which would protect individuals against some common features found on all viruses. This would eliminate the need to continually update vaccines. BiondVax, a vaccine created by Israeli scientists, falls under this classification and shows some promise. Its leading researcher, Ruth Arnon, claims that one drop placed in the nose is sufficient and provides at least 95 percent protection based on animal trials.

The challenges for a vaccine against H5N1 or avian flu include the need for an increased dosage, percent efficacy, and delivery method. Two 90 microgram doses currently have to be administered to provide some immunity to individuals. Researchers are exploring ways to reduce the current required dosage amount through the use of an adjuvant, which is an added substance that enhances the strength of the vaccine.

Important advances have already been made in this field. Lending support to research and development to find better vaccines is crucial to prepare ourselves against this potential global health threat and to sustain current promising studies. For more information on recent scientific progress, please refer to the excerpt listed on the reverse side of this letter.

Sincerely,



Congressman Michael C. Burgess, M.D.
Member of Congress

Avian Flu Treatment Research Advances

From an MSNBC article titled, *New ammunition against bird flu in the works*, November 8, 2005:

In the pipeline

Several other companies are moving along on research aimed at preventing and treating avian flu. Some products are already available, some are expected by Spring, and everyone is working at breakneck speed.

- Research by Hemispherx Biopharma of Philadelphia is exploring whether its drug Ampligen can increase the immune response of Tamiflu, Relenza or avian flu vaccines. The company will be able to use data from human safety studies conducted to see if the drug is safe in patients for the treatment of chronic fatigue syndrome, and they have already started animal studies. Hemispherx CEO William A. Carter says the company could be ready to apply to the FDA for approval for treating avian flu by next January.
- Medimmune of Gaithersburg, Md., is working with NIAID researchers on an avian flu vaccine that uses the company's nasal spray technology, which is already available as a standard flu vaccine, FluMist. However, the company says it could take years before they know if the vaccine is effective.
- Powdermed, based in Oxford, England, has a novel vaccine technology that uses recombinant bacteria rather than eggs to grow the vaccine. The vaccine is embedded in gold particles and delivered via a high-pressured system applied to the skin, and people may be able to give the vaccine to themselves. Although the company is heavily engaged in clinical trials, and could ramp up a vaccine in three months once the strain is identified — that's half the time needed for egg culture vaccines — they recently announced that they won't have the manufacturing facility for the device needed to deliver the vaccine completed before April 2007.

