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Medical Focus - Avian Flu Essentials

November 17, 2005

"Reason and free inquiry are the only effectual agents against error." – Thomas Jefferson

Dear Colleague:

In the second letter in the Avian Flu Essentials series, I would like to elaborate on key differences between antiviral drugs and vaccines.

Antiviral drugs designed to combat avian influenza are commonly referred by their brand names, Tamiflu or Relenza. These two drugs work as neuraminidase inhibitors. Patients can take pills of Tamiflu or receive Relenza with an inhaler. The best results are achieved by decreasing the severity of illness in patients that already have the disease, if Tamiflu or Relenza are administered within two days of infection. The Strategic National Stockpile that the Department of Health and Human Services is building is composed of a variety of these antivirals. The accumulation of various antiviral drugs is the best strategy to combat viruses as resistance can develop if only one agent is used.

On the other hand, vaccines can be administered before an individual comes into contact with a virus. They serve to build an individual's immunity to a disease. A person treated with a vaccine is less likely to become infected when he does encounter a virus. There is currently no approved vaccine against H5N1 but some are being developed and tested by Sanofi Pasteur, Chiron, and other manufacturers.

Antiviral drugs can be used to damper an outbreak, whereas vaccines have a better capability to prevent one from developing. However, vaccines are viral strain specific, so the challenge is to target specifically a strain that could cause a pandemic and produce a specific vaccine for that viral strain.

The next few letters will elaborate on the issues surrounding antiviral drugs and vaccines. The distinction between these two is central to developing a comprehensive plan against avian flu.

Sincerely,

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