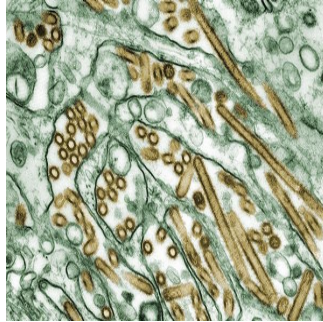


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## Vaccination Strategies For Avian Flu



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Two recent trials have examined new vaccination strategies for the prevention and control of avian influenza, commonly known as bird flu.

### First Study: Emory University School of Medicine, Atlanta

The first trial was conducted by Mark J. Mulligan, MD, and his colleagues. They compared the safety and immunogenicity of different doses of influenza A/Shanghai/2/13 (H7N9) vaccine mixed with or without the MF59 adjuvant. The study was conducted at four sites in the US with 700 adults between the ages of 19 to 64 years. The trial started in September 2013 with a six-month follow-up completed in May 2014.

There were seven study groups. The H7N9 inactivated virus vaccine was administered at various doses with or without the MF59 adjuvant. In patients without the MF59 adjuvant, the highest antigen dosage of 45 µg induced minimal antibody responses against H7N9. The dose was not associated with increased response. In patients with two doses of H7N9 vaccine at a dosage of 3.75 µg plus the MF59 adjuvant, day 42 seroconversion occurred in 59 percent of the participants.

No severe side-effects were reported. Receipt of seasonal influenza vaccination and old age played a role in reduced response. Symptoms after vaccination were mild. Local symptoms were observed more in participants who received the MF59 adjuvant.

The study authors write, "The significant antigen dose-sparing effect of MF59 is an important finding, potentially allowing for protection of many more people with limited vaccine. The study did not determine the optimal antigen dose to combine with MF59 because the lowest dose produced the maximum antibody seroconversion. This is an area for future research."

While the study may be limited by absence of antibody data beyond 42 days, the findings indicate potential value in the approach that was used.

### Second Study: Saint Louis University School of Medicine

Robert B. Belshe, MD, and his colleagues examined whether immunologic priming with vaccine directed toward an older avian flu H5 strain might lead to secondary antibody responses to a single dose of a more current H5 avian flu vaccine.

The participants of the study who were vaccinated a year ago with 1 or 2 doses of the Vietnam vaccine received low dose Anhui vaccine with or without the MF59 adjuvant.

The findings of the study showed that the previous receipt of the Vietnam vaccine was associated with sufficient immunologic priming to increase response to a different H5N1 antigen using the Anhui vaccine. The secondary antibody responses were brisk and peaked at 14 days after vaccination. In patients who had not received the H5 vaccine previously, the Anhui vaccine plus adjuvant was more immunogenic.

The study authors write, "In the present study, significant dose sparing was associated with the addition of MF59 adjuvant among vaccine naive participants; among these participants, the advantage of adding an adjuvant to novel influenza vaccine antigens became apparent."

John Treanor, MD, of the University of Rochester in New York, writes that these studies "provide important information that expands the available options for confronting pandemic influenza, and may help surmount those obstacles."

Source: JAMA

Image Credit: Wikimedia Commons

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