

Re: H5N1 Infection + Antiviral Drug + Recovery ==> Immunity?

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- *From:* bae@xxxxxxxxxxxxxxxxxxxxxxxx
 - *Date:* 25 Sep 2005 14:27:10 GMT
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In article <2ce9j191ve6slcn2ff017v3eqhg1a79fg1@xxxxxxx>, (PeteCresswell) <a@xxxxxxxxxxxxxxxx> wrote:
>I'm trying to visualize what's going to happen if/when H5N1 mutates to a
>person-to-person-transmissible virus.
>
>One image I have is of a very rapid spread because nobody has any existing
>immunity. i.e. Lots of people that we have contact with going about our daily
>business are going to be coming down with it.

Yes. Flu is very contagious. Many people will be exposed, many of them will become ill, and some will become seriously ill.

>Given that, if somebody became infected and lived; it seems like they would
>still be encountering other infected people on a fairly regular basis after
>that.
>
>So: if that infected person had access to an antiviral drug that enabled
>them to
>survive the first infection, would they then have an immunity to the virus
>comparable to having received a vaccination? ... or would they require access
>to additional courses of the antiviral drug in order to survive subsequent
>re-infections?

You develop immunity to a specific flu strain when you're exposed to it. This immunity should protect you for some time (years) against that strain, and give you some resistance to related ones. It's not a lifetime immunity, but it works reasonably well in the short run. This is independent of whether you recover with or without the help of antiviral drugs.

Flu vaccines probably don't give you as good or as long-lasting an immunity as actually getting the flu, but they are good enough to be the difference between getting ill or not getting ill, or getting a mild case instead of a serious case for most people. Also note that if enough people are vaccinated, there won't be enough susceptible people to spread the virus, so most people will end up never being exposed to it. This is called "herd immunity" — susceptible people are surrounded by immune people who can't infect them. It's the best

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method to protect the most susceptible: the chronically ill and the elderly, who don't develop strong immunity from vaccines, and are most likely to become seriously ill or die from even the annual outbreaks of relatively mild influenza strains. It's also the best method to protect a population from any serious disease, since no vaccine is 100% effective. This is how smallpox was eradicated, and how most childhood diseases were reduced to near insignificance in developed countries.

Note that while a pandemic could be disastrous, it's not the end of the world. The WHO keeps records of laboratory confirmed cases, and as of 22 September, there have been 115 cases and 59 deaths in almost two years. That sounds horrific until you realize that probably well over a billion people have been exposed to the virus, and only those sick enough to be hospitalized, and identified as potential victims of avian influenza would be tested. When there was an outbreak of avian flu in Hong Kong in 1997, with similar mortality rates, poultry workers were tested and about 10% of them had antibodies for H5, without having been seriously ill.

The World Health Organization has been doing a great deal to avert pandemics. If this strain doesn't jump the species barrier, it will be due to their efforts, and if it does, there will likely be "only" millions rather than tens or hundreds of millions of deaths, due to intense surveillance and early development of vaccines. As a background, the 1918–20 pandemic killed about 50 million worldwide, and about 70,000 people die of flu annually in the US. The brief SARS epidemic a few years ago demonstrated both the effectiveness and flaws in emergency plans, which stood up very well for that less contagious but more virulent disease with no vaccine or effective treatment.

If it's your own health, and that of your friends and family that concern you, note that most deaths will be in poor countries, where chronic malnutrition and chronic illness from malaria, tuberculosis and AIDS, poor and crowded living conditions and limited resources for public health measures will make an epidemic harder to control and much higher in mortality rate.

Note that a lot of the above is my opinion, which likely isn't worth a lot since I'm not a medical worker, an immunologist nor an epidemiologist. If you want more authoritative information, I suggest the WHO web site, www.who.int, especially the sections on avian influenza and pandemic preparedness.

• *Follow-Ups:*

- ◆ **Re: H5N1 Infection + Antiviral Drug + Recovery ==> Immunity?**
 ◇ *From: (PeteCresswell)*
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• **References:**

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