Swine influenza

WHEN PIGS FLY

A swine influenza (from Italian word, *influence,* flu) epidemic is sweeping in Mexico and is threatening to become a pandemic with recognition of mild cases of flu in Southern parts of US, Canada, Spain, France, Israel, New Zealand, and Germany The current outbreak has the epicentre in Mexico where it has claimed more than 150 lives and more than 2000 have become sick.

There is a saying, 'when pigs fly', mockingly used to mean an event which will never occur. But, now it has an ironic ring to it with another worldwide panic attack over swine flu.

This is an infectious disease caused by a highly contagious virus. The disease appears to have jumped the species barrier, infecting human and causing death. Such a flu pandemic had occurred in 1918-19 causing 20-40 million deaths globally, and was referred to as Spanish flu pandemic. There were pandemics in 1957-58 (Asian flu), 1968-69 (Hong Kong flu) and 1997, 2005-06 (Avian flu). These pandemics were thought to be result of gene swapping among different strains of influenza virus. The H1N1 subtype of influenza A virus was responsible for 1918 epidemic. The 1957 and 1968 pandemics were caused by H2N1 and H3N2 subtypes of the flu viruses. Avian flu was caused by H5N1 subtype of influenza virus.

The origin of swine flu is from an endemic in pig population. The Asian and European strains are likely to be traveled to Mexico by migratory birds or people, and then combining with North American strains in the Mexico pig factory farms before jumping over to farm workers. The infecting strain appears to be a genetic mixture of viruses from pigs, birds and humans, a dangerous combination that could elude traditional drug treatments. Swine flu is a type-A influenza virus that causes respiratory illness in pigs. Though whole herds are known to fall ill with the virus, rarely they have died an account of the infection. It sometimes affects human who have close contact with pigs. Droplets emanating from coughing and sneezing are the most common modes of transmission of the infection between humans once the pig-to-human infection has happened. People with flu can infect others one day before symptoms appear and up to 7 or more days after becoming sick.

Influenza viruses possess an unusual ability to swap proteins with other influenza viruses to create a new lethal strain influenza virus. The causative agent is a rod-shaped RNA virus. The genes are wrapped in proteins that either protect or help the viruses to replicate in the body. The virus contains two glycoproteins in the

form of spikes on its surface. They are haemagglutinin (H1) and neuraminidase (N1) (H1N1 influenza virus). The spikes help in breaking the mucus barrier in the nose and throat and get attached to the mucosa.

The condition is characterized by sudden onset of fever, malaise, head ache, extreme fatigue, sore throat and dry cough. Often the patients have vomiting and diarrhoea.

There is no vaccine against current H1N1 strain of flu virus. Oseltamivir (Tamiflu) is capable of inhibiting normal neuraminidase. It is useful for prevention and treatment of flu infection. It has to be administered within 48 hours following onset of symptoms. It is given orally in a dose of 75 mg twice a day for 5 days in the treatment of flue. The gastrointestinal side effects such as nausea and vomiting can be reduced in frequency by administration with food. It reduces the symptoms by a day and viral shedding by 2 days. Oseltamivir can be effectively used as a prophylactic for 10 days in a dose of 75 mg a day to prevent occurrence of influenza in household contacts.

An infected tourist may spread the infection if checks are not in place. Widespread attention has been focused sharply on travelers and quarantine of travelers arriving by flight from the affected areas if they have symptoms. A thermal imaging scanner can indicate body temperature of the passengers arriving from international flights. It has been advised not to undertake non-essential travel to Mexico and US, and to postpone the travel to the affected countries. No case has been reported in India. The scare of a pandemic that could affect millions across the globe has spurred the Indian authorities to put together a containment plan in the international airports and ports and making it mandatory for all those arriving from the flu-hit countries to undergo checks for fever and throat infections.

Preventive measures include washing of hands properly and also to avoid close contact to thwart the spread. Wearing of protective face masks in piggeries is advocated to prevent the entry of the infection. The infection is not spread by eating pork or its products. However it is necessary to cook port at over 70 oC which kills the virus.

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