**Swine Flu (H1N1) Epidemics & Pandemics**

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Human influenza is a highly contagious, acute respiratory disease caused by influenza virus. According to glycoprotein, hemagglutinin they are described as H1N1; H1N2 etc. Influenza viruses are unique among respiratory viruses; they undergo antigenic variation, resulting in frequent epidemics and periodic pandemics. On an average, annually, around 0.5-1.0 million die and 6-12 million people become infected due to influenza epidemics worldwide.

In 1918, pandemic of A (H1N1) also called as Spanish Flu, infected 500 million people across the world, including remote Pacific islands and the Arctic, and resulted in the deaths of 50 to 100 million (three to five percent of the world’s population), making it one of the deadliest natural disasters in human history.

The first large-scale epidemic of the 21st century began in March 2003, when severe acute respiratory syndrome (SARS) shocked the world by its high virulence and efficient transmissibility. Soon causative corona virus (HCoV-HKU) was identified. SARS involved more than 8,000 patients worldwide, and resulted in 774 deaths.

In 2009, influenza epidemic became pandemic, due to a new strain of swine origin H1N1. This novel H1N1 virus which began in Mexico spread to cause 17,000 deaths by the start of 2010. Clinical features were abrupt onset of fever with chills, running nose, sore throat, cough, headache, body ache, weakness, bronchitis, pneumonia & acute respiratory distress. WHO signaled that a global pandemic of novel influenza A (H1N1) was underway by raising worldwide pandemic alert level to phase-6. Pandemic started in India in Aug, 2009. Worldwide flu activity returned to its normal seasonal pattern and by August 2010, H1N1 pandemic was declared over by WHO. But there was a spurt of cases again at the end of 2014. In 2015, an outbreak became widespread throughout India. India’s ministry of health estimated, there to be 29,938 cases of swine flu across India, during 2015-16 resulting in 1,731 deaths. These figures surpass the country’s H1N1 numbers from the 2009 pandemic, when 27,236 cases and 981 deaths were reported.

In 2017, swine flu epidemic claimed 262 lives in Maharashtra and 1700 affected cases so far (June-30-2017), with highest number of swine flu deaths (55) being registered in Pune.

According to researchers at Massachusetts Institute of Technology (MIT), samples of the H1N1 swine flu strain currently ravaging India indicate that the strain may have mutated to become more infectious and dangerous. Contrary to MIT report, researchers at the National Institute of Virology (NIV) in Pune isolated a new strain called the Michigan strain as part of the on-going H1N1 surveillance. They say it is not really a mutation but a new strain that has been isolated from samples in Maharashtra. So far, since the 2009 pandemic, the California strain has been doing the rounds in India and this is the first time a new strain has been identified here. There has been a slight variation in the symptoms of H1N1 infection, in that a sizeable number of recent cases have GI complaints like abdominal pain and loose motions. The epidemic is notoriously seen to affect younger population in 15-40 years age group. Antiviral agents, commonly osiltamivir is made available in Government and Municipal hospitals.