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Review Article

**SWINE FLU (2009 H1N1 INFLUENZA) AND IT'S  
MONOVALENT VACCINATION**N K Mishra<sup>\*1</sup>, J R Panda<sup>2</sup>, Santanu Kumar Hotta<sup>3</sup><sup>1</sup> Mother Teresa Pharmacy College, SankethikaNagar, Kothuru, Sathupally-507303,  
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760010, India<sup>3</sup>Avanthi Institute of Pharmaceutical Sciences, Vizianagaram, Andhra Pradesh, 531162, India**Abstract:**

*Swine flu (2009 H1N1) is a mutational modified strain of the influenza virus. Many countries have been affected with this virus globally and it has been declared a pandemic influenza strain. 2009 H1N1 virus is a communicable disease which spreads from person to person through coughing, sneezing, nasal secretion and handling of objects which is contaminated with the virus. It is an ideal way to prevent swine flu by taking of early vaccination. Influenza A (H1N1) 2009 Monovalent vaccine is an inactivated influenza virus indicated for active immunization of persons age 6 months and older against influenza diseases caused by pandemic (H1N1) 2009 virus.*

**Key words:** (H1N1) 2009 virus, (H1N1) 2009 Monovalent Vaccine, Swine Flu**Corresponding author:****Prof. (Dr.) Nikunja Kishor Mishra***M. Pharm., Ph.D.**Professor and HOD**Department of Pharmacology**Mother Teresa Pharmacy College, SankethikaNagar,**Kothuru, Sathupally-507303, Dist. Khammam, T.S. India**E.mail- montu.mph@gmail.com**Ph- 07702226918, 08249531937*

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**INTRODUCTION:**

The H1N1 virus (Fig.2A) is a new type virus strain of influenza that has caused pandemic throughout the world from June 2009 to August 2010. It infects the respiratory tract of pigs and result in nasal secretions, a barking-like cough, decreased appetite [1]. It was first time observed in patient of Mexico in 2009. Also it was found in 2000 that, the H1N1 virus having six of the genes were very similar to pig [2]. It is the high risk towards the Swine flu who is regularly exposure to pigs.

**TRANSMISSION:**

Influenza is quite common in pigs, with about half of breeding pigs having been exposed to the virus in the US [3]. It is spread from person to person by contact with the respiratory secretion from an infected person or through droplets while sneezing. The virus enters to the upper respiratory tract of the healthy persons who are very nearer to the infected person around 2-3 feet distance. The virus can also spread through direct or indirect contact with the infected respiratory secretions by touching the contaminated surface and then touching to the eye, nose or mouth. The new form of the

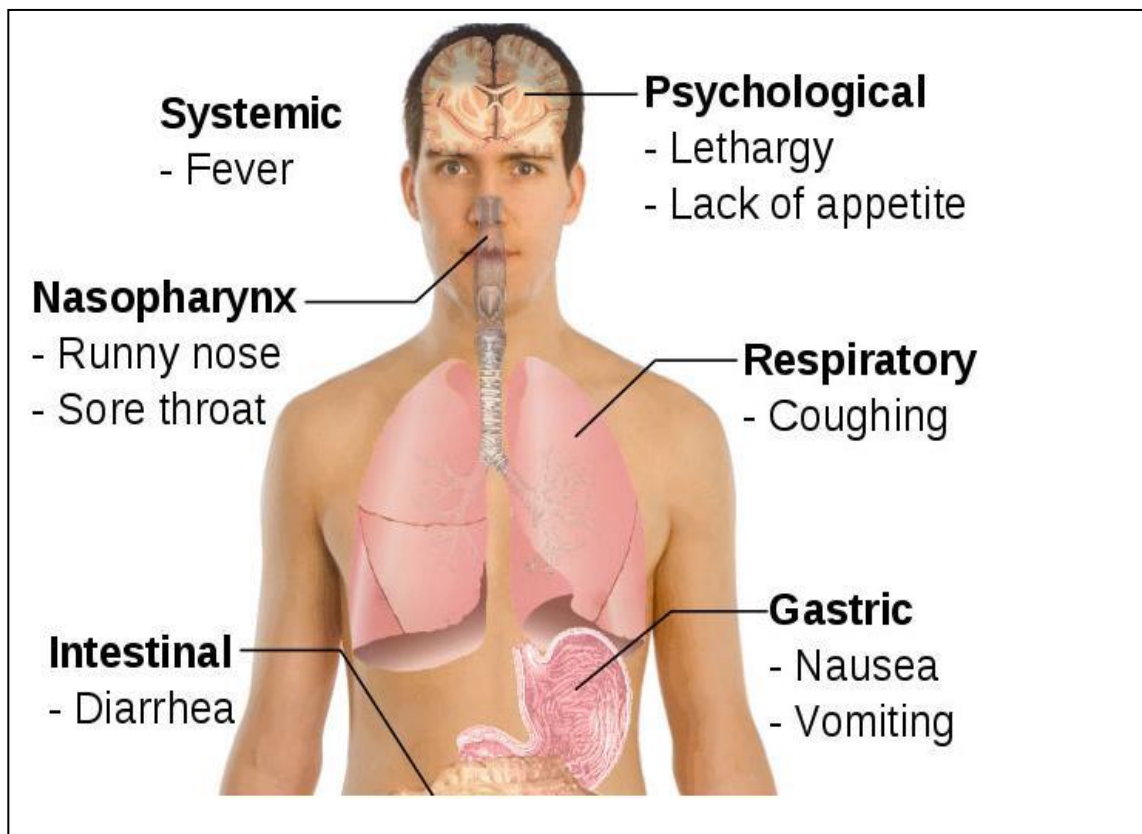
Influenza (H1N1 virus) is likely to be transmitted in similar manner as the seasonal flu spreads. The main transmission of the H1N1 virus among the public is through cough or sneezing and through the mouth contact. The person affected with the swine flu should be considered potentially contagious till loss of the symptoms.

**SIGNS AND SYMPTOMS:**

The viruses can cause mild to severe illness sometimes resulting in death. It is important to note that the flu is different from a common cold or seasonal allergies. Generally, the onset of the flu is sudden and symptoms include (Fig.1) fever (usually high), headache, chills, sore throat, runny or stuffy nose, dry cough, severe exhaustion, muscle aches and stomach symptoms, such as nausea, vomiting and diarrhoea [4].

**SERIOUS SWINE FLU SYMPTOMS:**

High grade fever with chills, Headache, Body ache, Cough and cold, Sore throat, Running nose, Vomiting, Severe tiredness, Stuffy nose/running nose and Fatigue.



**Fig.1: Different physiological symptom of Swine flu.**

**DIAGNOSIS:**

It is better way to make diagnosis to Swine flu is by taking nasopharyngeal swabs of the patient. A long Q-tip is inserted into the nose and rotated several times. A trained physician or microbiologist should collect the specimen and should be kept in a refrigerator at 4°C in a viral transport media. The sample should be transported within 24hrs for testing. The report will be conformed after the viral culture. Rapid influenza diagnostic test (RIDTs) is an immunoassay that can identify the presence of antigen within 30 minutes.

**PREVENTION:**

Influenza A (H1N1) 2009 Monovalent Vaccine (Fig.2B) is an inactivated influenza virus vaccine indicated to develop active immunity in the person at 6 months and older against the disease caused by H1N1 2009 virus. Further H1N1 contamination can be avoid by taking suitable measures (Fig.2C).

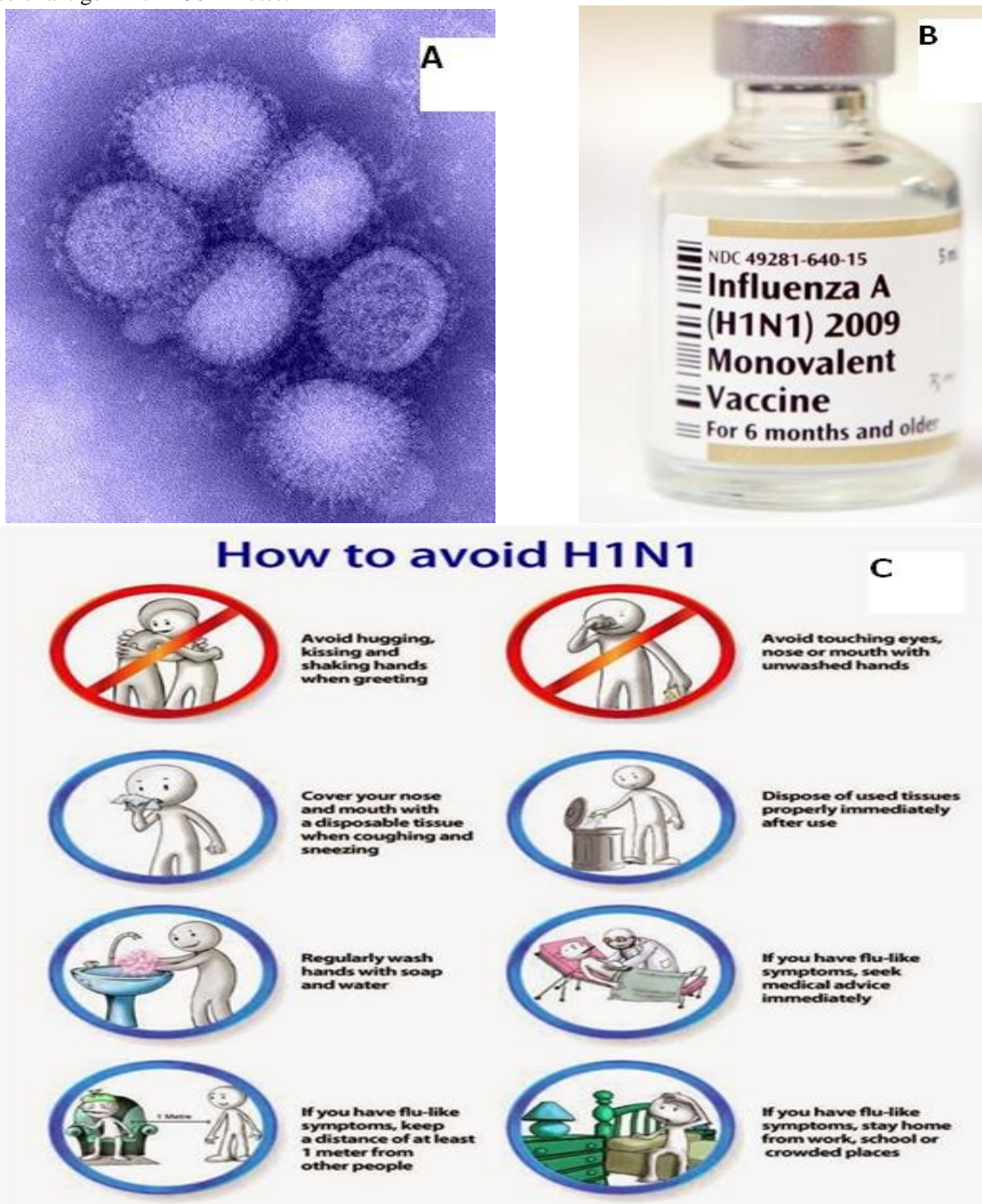


Fig.2: H1N1 virus (A), H1N1 influenza vaccine (B) and Avoiding to H1N1 contamination (C).

**DOSAGE AND ADMINISTRATION:****In case of Children:**

- The children of Six months to Thirty five months age should be received two doses of 0.25 ml 4-weeks apart [5].
- The children of Thirty six months to Nine years age should be received two doses of 0.5 ml 4-weeks apart [5].
- The children of Ten years age and older should be received a single doses of 0.5 ml of intra muscular [5].

**In case of Adults:**

The persons of 18 years of age and older should receive a single doses of 0.5 ml of intra muscular, [5] preferably in the deltoid muscle of the upper arm.

**WHO SHOULD GET 2009 H1N1 INFL UENZA VACCINE?**

Groups recommended to receive 2009 H1N1 vaccine first are:

- Pregnant women.
- People who live with or care for infants younger than 6 months of age.
- Health care and emergency personnel.
- Anyone from 6 months through 24 years of age.
- Anyone from 25 through 64 with certain chronic medical conditions or a weakened immune system.

These following groups should also be vaccinated:

- Healthy 25-64 year olds.
- Adults 65 and older.

**STORAGE:**

Vaccine should be stored at 2–8°C (36–46°F). It should not be kept in deep freeze. It should be protected from light. The vaccine in the vial must be used within 24 hours after piercing the stopper. The Influenza A (H1N1) 2009 Monovalent Vaccine should not be used beyond the expiration date printed on the label.

**ADVERSE REACTIONS ASSOCIATED WITH INFLUENZA VACCINATION:**

Some mild problems includes soreness, redness, tenderness, or swelling where the shot was given, fainting (mainly adolescents), headache, muscle aches, fever and nausea. Some cases severe problems like Anaphylaxis has been reported after administration of Influenza A (H1N1) 2009 Monovalent vaccine contains only limited quantity of egg proteins which can induce immediate hypersensitivity reactions having sever egg allergy. Allergic reactions include hives; angioedema, asthma, and systemic anaphylaxis [6].

**CONTRAINDICATIONS:**

Influenza A (H1N1) 2009 Monovalent vaccine is contraindicated in individuals with known hypersensitivity towards egg, neomycin or having previous history of reaction to influenza vaccine. If the patient moderately or severely ill, the patient may be advised to wait until he recover before getting the vaccine. Pregnancy or breastfeeding are not reasons to avoid getting 2009 H1N1 flu vaccine.

**CONCLUSION:**

Swine influenza A (H1N1) a respiratory disease of pigs caused by type A influenza viruses that causes regular outbreaks in pigs. Until recently the swine influenza A (H1N1) virus has not normally infected humans, but the latest form has and can be spread from person-to-person. The latest H1N1 contains genetic material typically found in strains of the virus that affect humans, birds and swine. Till July 9, the news indicates 12,460 people are affected with H1N1 and caused 600 deaths in India. At present scenario indicates 16 deaths are due to H1N1 infection in Odisha. Through vaccination the H1N1 virus can be controlled among the public and it must be instructed them regarding supportive precautions.

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**CONFLICT OF INTEREST:**

Authors declare no conflict of interest.

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