

Swine flu vaccination: introduction & recent developments

Abstract

Swine flu is a viral disease caused by H1N1 virus. This virus has genes drawn from swine, avian and human sources. The 2009 outbreak of swine flu in United States and subsequent spread to almost across the world has drawn the attention of scientific community. Swine flu poses danger to public health. It has caused some 2500 deaths in India alone. Many efforts have been made to develop effective drugs and vaccines against swine flu. Occurrence of bullous pemphigoid and narcolepsy as adverse reactions to vaccination has raised concerns for safety and therapeutic monitoring. The present article focuses on vaccination and attempts to outline the historical developments and issue related to it.

Keywords: swine flu, h1n1 virus, vaccination, safety, monitoring

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Introduction

Swine flu (H1N1 influenza) is an infectious disease. It has been reviewed in biomedical literature.¹ Past of swine flu has been described in detail in reputed journal Science.² Swine flu has been assumed to be a danger for public health.³ The challenges of swine flu have been discussed.⁴ Swine flu has become a global threat.⁵

Vulnerable groups

The most vulnerable group includes women,⁶ pregnant women in the second and third trimesters,⁷ children,⁸ travelers,⁹ and health care workers.¹⁰ Vaccination against Swine flu affair has been discussed in public health.¹¹ At one time, H1N1 (Swine) flu vaccine was considered compulsory for hospital staff.¹² Vaccination of primary health care staff assumes greater importance.¹³ Nurses have been exhorted to take benefit of swine flu vaccine.¹⁴ Healthcare workers may not have the swine flu vaccine.¹⁵

Vaccination

Determinants of swine flu vaccination success have been discussed.¹⁶ 1976 swine flu vaccine recipients have enhanced neutralization response to 2009 H1N1 virus.¹⁷ Swine flu vaccine is considered thousand-fold safer than the infection.¹⁸ Developing countries are eagerly waiting H1N1 vaccine.¹⁹ Mark Mulligan is credited with Emory swine flu vaccine trial.²⁰ China readied for swine flu vaccination.²¹ China was first to start vaccination against Swine flu.²² Four groups have been identified to be at risk.²³ Effortswere made to make swine flu vaccine before the winters of 2009.²⁴ Swine flu vaccine is approved in Europe.²⁵ 1976 and 2009 versions of Swine flu vaccines have been compared.²⁶ Children may need two doses of swine flu vaccine.²⁷ Need is felt to create Swine flu vaccine awareness in pregnant women.²⁸ Swine flu vaccine utility is doubted.²⁹ Swine flu vaccine has faced global opposition.³⁰ UK has developed a useful framework for pandemic flu vaccination.³¹ Australian swine flu vaccination plans have also faced criticism.³² Effective swine flu vaccine is waited.³³

Vaccine formulation

Swine flu vaccine development efforts and problems have been highlighted.³⁴ Swine flu vaccine has agitated the adjuvant debate.³⁵

H1N1 vaccine used mercury based preservative-thimerosal and hence, health-care workers in US have become apprehensive.³⁶ Adjuvanted vaccine approach for Swine flu has been reported.³⁷ AS03(B)-adjuvanted split virion H1N1 vaccine has been used in Gemany.³⁸ Pandemrix swine flu vaccine using squalene has proven to be a catastrophe.³⁹ Dilemmas have surrounded swine flu vaccine.⁴⁰

ADR monitoring issues

Bullous pemphigoid has been reportedly triggered by swine flu vaccination.⁴¹ Narcolepsy has Swine flu connection.⁴² UK has seen a judgement to compensate a boy developing narcolepsy after swine flu vaccine. He got 120,000 pounds for damage.⁴³ Safety of swine influenza A (H1N1) vaccines needs monitoring.⁴⁴ Serious adverse events of swine flu vaccination need to be self-reported by patients.⁴⁵ ADR monitoring of swine flu vaccine in children is deemed important. The swine flu ADR portal has been developed.⁴⁶

General practitioners

GPs have tried to collaborate with NHS for children vaccination.⁴⁷ UK GPs have agreed to lead swine flu vaccination.⁴⁸ UK GPs have made efforts to vaccinate all vulnerable groups well-before Christmas.⁴⁹

Pharma companies

Government ordered swine flu vaccine supplies.⁵⁰ GSK's swine flu vaccine order feared cancellation.⁵¹ Government made efforts to offload vaccine supplies.⁵² Confidential documents of WHO and drug companies have been sought by swine flu review panel.⁵³

Regional effects

India has seen more than 2500 deaths from Swine flu.⁵⁴ Turks exhibited opposition to A/H1N1 influenza vaccination.⁵⁵ Anti-swine flu vaccine movement exists in France.⁵⁶

Conclusion

Swine flu is a threat to global public health. The developed as well as developing countries are affected by it. Vaccination is an important tool in fight against swine flu. Dedicated efforts are needed to create awareness rough appropriate channels including the social media.

There are technical issues concerning the development of a suitable vaccine for swine flu. The safety and efficacy issues of this vaccine need to be addressed before vaccine finds acceptance amongst the masses. The effective vaccine against swine flu is still awaited.

Acknowledgments

None.

Conflicts of interest

None.

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