

supporting the healing power of the body and empowering our patients by keeping them properly informed.

This article included contributions from: Dr. Karen Jensen, Dr. Seema Kanwal, Dr. Christoph Kind, Dr. David Lescheid, Dr. Deborah Phair & Dr. Kulwinder Sraw. References available from the BCNA; e-mail bcna@bcna.ca for a full list.

H1N1 Vaccine Information

Researched by Dr. Kulwinder Sraw

Research, Efficacy

The WHO recommends vaccines as the most important medical intervention for reducing illness and death during pandemics. In order to have the greatest impact vaccines must be available quickly and in large quantities. As the pandemic progresses the desperate search for a vaccine has been expedited and fast-tracked with new technologies involved in producing the vaccines. As a result, the research regarding efficacy and safety is limited, having not been fully evaluated.

The following is the typical progression for the development of vaccines: Identification of the virus; Preparation of the vaccine strain; Verification of the vaccine strain; Preparation of the reagents to test the vaccine; Optimization of viral growth conditions, vaccine bulk manufacture, quality control, vaccine filling and release, clinical studies.

In the best-case scenario, this process can be completed in five to six months. Then the first pandemic vaccine lot is made available for distribution and use. The swine flu was detected March 18, 2009. The manufacturer of Canada's swine flu vaccine, GlaxoSmithKline, began human studies, as part of 16 clinical trials, in 9000 adults in Canada, U.S.A. and Europe on August 4th, 2009. Results of these trials are to be expected early September 2009. Although, the results of these trials will be of some value, the true effects and risks of the vaccine will remain unknown until the vaccination campaign is in full swing, when millions have been vaccinated.

As the pandemic virus is considered unstoppable, WHO has recommended vaccines for all countries to protect the integrity of the health care system and

each country's critical infrastructures, reduce morbidity and mortality, and reduce transmission of the virus within communities. The Public Health Agency of Canada (PHAC) has recommended that there be priorities for vaccinations for those in need. However, once the vaccine has been distributed and H1N1 is better understood, specific recommendations on the priorities and the targetted groups will become clearer. PHAC's polling shows that up to 60% of the Canadian population is said to be interested or will be in need of the H1N1 vaccine.

The WHO and PHAC have recommended the use of antivirals, oseltamavir (Tamiflu) & zanamavir (Relenza) when the illness is at the moderate to severe stages and the patient is at great risk for complications. PHAC does not recommend these medications for prophylactic purposes due to the probability of creating resistance. *This leaves a lot of room for naturopathic antiviral therapies and immune enhancement to be mitigated.*

Safety

The search for the H1N1 vaccine began in April 2009. The main concern has to do with questions of safety of the vaccines created on such short notice with very minimal data. Even GlaxoSmithKline, has stated data on the efficacy and safety of the vaccine is too preliminary to state with certainty. Because there is minimal data, many health experts feel that governments rolling out massive campaigns are taking a gamble. Rare side effects will not show up until millions of people have received the vaccination.

From a historical context, in 1976 approximately 45 million people were immunized in the U.S. for an influenza virus of swine origin. The program was discontinued prematurely, in part due to an increased incidence of Guillain-Barré syndrome. Although the mechanism for Guillain-Barré syndrome is unknown, there does not seem to be an increased risk observed with subsequent influenza vaccines.

The seed virus, which is a safer form of the virus, is grown and cultured in hen's eggs. The main concern has to do with allergy/hypersensitivity to eggs. How could this

impact immunity, especially in children? Although, studies have shown that children with severe allergy to eggs are able to receive such immunizations with no serious side effects, this remains questionable.

Dr. David Butler-Jones, Chief Public Health Officer of Canada, has stated that the risks of swine flu far outweigh the theoretical risks of the adjuvant vaccine. He went on to state that, they will be monitoring closely when it comes onto the market, and if there are any concerns they will be addressed. Vaccines commonly provoke reactions such as nausea, fever, pain from the injection, and diarrhea, neurological and even autoimmune illnesses.

Like the inactivated annual influenza vaccines, multi-dose vials containing thimerosal (the mercury based preservative) will be used in the H1N1 vaccine. Thimerosal has been associated with neurological and immune dysfunction. Reportedly, there will be a very limited supply of single dose, thimerosal-free vaccines available. The live virus vaccine (not available in Canada), as a nasal spray through MedImmune, does not contain thimerosal.

GlaxoSmithKline, who was responsible for production of the avian flu vaccine, reported avian flu vaccinations only required one dose because of the addition of adjuvants. Without adjuvants, it was thought that more than one dose would most likely be required for complete vaccination from avian flu. Adjuvants are additives to boost the immune response in vaccines. They are thought to increase antibody production and stimulate the immune system to mount a stronger immune response to lab-altered virus or bacteria in vaccines. However, since many have not been exposed to the H1N1 virus, it is thought that two separate monthly immunizations of H1N1 vaccine should be done. Adjuvants help shortcut this issue.

Several types of adjuvants are used in vaccines. Two of the most commonly used are oil in water adjuvants (squalene – MF59) and aluminum based adjuvants. Oil in water adjuvants are used in inactivated vaccines in most parts of the world. The

Continued on page 24