Immune-modulating Medications, Autoimmune Diseases and the H1N1 Flu

By Pierre J. Plourde, MD

The first and second waves of the H1N1 flu have shown that those with underlying chronic autoimmune diseases are not at greater risk of becoming infected with the virus. Once infected, however, these patients have a significantly greater risk of developing severe complications requiring hospitalization and admission to intensive-care units. Recommendations have therefore been made to offer early treatment, such as oseltamivir 75 mg BID X 5 days—started within 48 hours (preferably within 12 to 24 hours) of symptom onset—to individuals with chronic autoimmune diseases who develop even mild flu-like symptoms during the next H1N1 wave, with the goal of preventing severe complications.

Physicians can ensure timely access to oseltamivir by providing their patients with pre-signed oseltamivir prescriptions, and instructing their patients to give them a phone call if/when they think they have flu-like symptoms, at which time the physician can provide guidance over the phone regarding filling the prescription. In this way, the patient does not need to make an office visit (unless symptoms are particularly severe) and they can start oseltamivir as soon as possible.

Some further questions concerning the H1N1 vaccine and rheumatology patients are answered below.

1. Will the H1N1 vaccine be as effective in individuals with autoimmune disorders as in the general public?

Individuals with autoimmune disorders, including those who are taking immunosuppressive therapies, may not mount a very effective post-vaccine immunity to the H1N1 flu. In addition, the more immunosuppressed one is, the more likely they are to develop severe H1N1 complications when infected with the virus. Hence, it is critical that those who surround these individuals (*e.g.,* family members and healthcare providers) receive the H1N1 vaccine to provide a layer of protection (*i.e.,* a form of "herd immunity").

Clinicians may also want to consider temporarily holding their immunosuppressive therapies to provide the optimum conditions for achieving better responses to the H1N1 vaccine. Patients with autoimmune disorders should preferentially receive the H1N1 vaccine which contains adjuvant, as it is expected to generate a better immune response than vaccines which do not contain an adjuvant.

2. Should individuals taking anti-TNF therapies hold their medications to improve their immune response to the H1N1 vaccine?

Although no data is currently available, it is conceivable that patients taking anti-tumor necrosis factor (TNF) therapies for rheumatologic conditions may not mount a very effective post-vaccine immunity to the H1N1 flu . Hence, if possible, it may be prudent to temporarily suspend immunosuppressive therapies from about four weeks prior to and until two to three weeks after such individuals have received the H1N1 vaccine. Regardless, patients on anti-TNF therapies should preferentially receive the H1N1 vaccine which contains adjuvant as it is expected to generate a better immune response than vaccine, which does not contain adjuvant.

3. Are there specific concerns about using vaccine plus adjuvant in patients with autoimmune diseases vs. the vaccine alone?

There are limited data with respect to the use of newer adjuvant-containing vaccines in patients with autoimmune diseases. On the other hand, adjuvant-containing vaccines are designed to produce stronger and longer-lasting immune responses, which would be potentially favorable for patients with autoimmune diseases. Post-marketing surveillance of the current use of adjuvant-containing H1N1 vaccines has not detected any excess risk of rare immune-mediated vaccine adverse events, such as Guillain-Barré Syndrome. Flare-ups of autoimmune disease have also not been reported following use of adjuvant-containing H1N1 vaccine. Hence, at this time, adjuvant-containing H1N1 vaccines are the preferred options for patients with autoimmune diseases.

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