NVX-CoV2373, a protein-based vaccine against SARS-CoV-2 infection

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1 NVX-CoV2373 (marketed as Nuvaxovid) is a protein-based vaccine against SARS-CoV-2, approved in Canada for adults unable or unwilling to receive an mRNA vaccine

Protein-based vaccines have a long history of use that may make them more acceptable to patients who are hesitant to receive mRNA vaccination.[1] NVX-CoV2373 consists of a recombinant spike protein subunit plus adjuvant. It may also be considered for people who are allergic to components of mRNA vaccines (e.g., polyethylene glycol).[2]

2 NVX-CoV2373 can be used in a primary series of vaccination

NVX-CoV2373 can be administered in a 2-dose primary series or as a heterologous primary series with another approved vaccine against SARS-CoV-2. Doses should be separated by 8 weeks to maximize immune response.[2]

3 NVX-CoV2373 may be offered as a booster

Although not approved by Health Canada for this indication, the National Advisory Committee on Immunizations recommends NVX-CoV2373 as a booster 6 months after any primary series.[2]

4 NVX-CoV2373 is efficacious

Clinical trials (conducted when Alpha and Beta variants predominated) that included more than 49 000 participants found that 2 doses of NVX-CoV2373 were about 90% effective at preventing infection with SARS-CoV-2 and more than 86% effective at preventing moderate or severe COVID-19.[3,4] Although studies evaluating its efficacy against Omicron are ongoing, 1 study reported that 3 doses of NVX-CoV2373 induced neutralizing antibody titres against Omicron BA.1 and BA.4, similar to 3 doses of mRNA vaccine.[5] Boosting with NVX-CoV2373 resulted in lower antibody titres than boosting with an mRNA vaccine.[2]

5 NVX-CoV2373 is safe

Adverse events in clinical trials of NVX-CoV2373 were similar to those for mRNA vaccines, including localized pain, fatigue, headache and muscle aches.[3,4] These were more common after the second dose and resolved within 1–2 days. Severe adverse events were similar in frequency to placebo (about 1%). No severe immediate allergic reactions or vaccine-induced immune thrombotic thrombocytopenia have been reported. Myocarditis and pericarditis have occurred in rare instances, but it is currently uncertain whether NVX-CoV2373 was the cause.[2]

References

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