

Pfizer's COVID-19 Vaccine: A Historic Moment for Humanity

Richard Béliveau

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The announcement that the vaccine against COVID-19, developed by Pfizer and BioNTech, shows great efficacy in preventing disease without causing major side effects, represents a historic moment for science and for humanity.

Historic, not only because this vaccine finally makes it possible to consider being able to put an end in the near future to a pandemic which has killed more than 1.2 million people, but also because it brings vaccination into a new time.

Let's remember that until very recently, vaccine development could take 5 to 10 years, and sometimes more.

SCIENTIFIC BREAKTHROUGH

The approval of the Pfizer / BioNTech vaccine less than a year after the SARS-CoV-2 coronavirus was identified therefore represents an extraordinary scientific breakthrough.

This rapid development is due to a completely new biochemical approach, based on the use of viral RNA as an immunizing agent.

As soon as the genetic sequence of the virus was determined last January, it was possible to synthetically produce the coding gene (mRNA) for a protein essential for the infectivity of the virus, present in its external structure.

Once injected into the body, this mRNA dictates the production of this viral protein and the activation of the immune response against it.

Preliminary results announced yesterday by Pfizer indicate that the vaccine produced using this approach is 90% effective, an unexpected protective effect (the FDA anticipated 50-60%), which is similar to some well-established vaccines like the one against measles.



GREAT FLEXIBILITY

It should also be mentioned that this viral RNA-based approach allows great flexibility if mutations in the virus modify the structure of the protein targeted by the vaccine and prevent it from inducing an effective long-term immune response.

The production of a new vaccine could then be quickly restarted simply by modifying the mRNA to produce the mutated form of the protein.

This possibility of counterattacking quickly in the event of an antigenic drift of the coronavirus therefore represents a huge advantage of this type of vaccine.

These results are really encouraging and allow us to finally envision the imminent outcome of the current health crisis, on a global scale.