How 'One Health' Could Become A Global One Health Disaster

A Call for a Moratorium on mRNA Vaccines for Veterinary Use


Dr. Byram W. Bridle
Nov 23

This article discloses a major new concern that I have with mRNA vaccine technology in its current form. As such, I have taken care to build the rationale for this. Please take the time to read to the end because this is an issue that could potentially affect us all and should be opened to discussion and scientific investigations.

The Elegant Concept of Vaccines

The purpose of a vaccine is to simulate infection with a pathogen so a person can mount a protective immune response without having to be exposed to the risks associated with the disease caused by the pathogen. Naturally acquired immunity represents the gold standard that vaccinologists try to achieve with their immunization technologies. Natural immunity is usually broadly reactive to minimize risk of immunoevasion, confers long-lasting protection against acquisition of the disease and prevents transmission of the causative pathogen to others. In principle, the concept is sound. In practice, we still have much to learn about natural immune responses and some vaccines come closer than others to achieving this gold standard of immunity.

Lipid Nanoparticles and mRNA Vaccine Technology

Messenger RNA is a genetic blueprint that cells use to manufacture proteins. This can only happen if the mRNA can get into cells. To facilitate this, mRNAs get packaged into tiny bubbles made of fat, called lipid nanoparticles (LNPs). When LNPs come into contact with the fat layer that surrounds cells, which is called the cell membrane, they fuse and release the mRNAs into the cell.

LNPs were originally designed with the goal of delivering drugs throughout the body, including into the brain to treat things like Alzheimer's disease, brain cancers, and Parkinson's disease. They were also being tested for wide-spread delivery of genetic blueprints to try to correct genes associated with diseases; known as gene therapy. However, one of the major roadblocks to using LNPs for these purposes was that multiple administrations resulted in excessive toxicities, in part due to activation of inflammatory mechanisms of the immune system. As a consequence, companies strategically decided to try using LNP-encapsulated mRNAs as vaccines. The rationale was two-fold:

1. The immune system needs to detect something as being dangerous before it responds to it. LNPs containing mRNAs are highly 'reactogenic' and, therefore, perceived as being dangerous to the body. By virtue of being reactogenic, this technology induces inflammation, which is the foundation for any immune response.
2. According to Health Canada, "An ideal vaccine is… effective in providing lifelong protection against disease after a single dose that can be administered at birth". For multiple reasons, including having immature immune systems, newborn babies cannot respond properly to vaccines, so my opinion is that a couple of doses would normally be required for an ideal vaccine in infants and they would have to be administered well after birth. However, for those with fully mature immune systems, it is reasonable and, therefore, correct for Health Canada to expect that a good vaccine would only require a single dose to provide "lifelong protection against disease". They appropriately left out the last-ditch effort of 'reducing severity of disease' in their delineation of an ideal vaccine. As such, companies working with LNPs that are toxic when administered multiple times, latched onto the concept of using LNP-encapsulated mRNAs as vaccines in adults, where they would theoretically only have to be delivered once.

Therefore, companies like Pfizer/BioNTech and Moderna made LNPs containing the mRNAs that encode the spike protein from severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), which is the causative agent of the novel coronavirus disease that was first identified in 2019 (COVID-19). These products were tested to assess their

potential to be used as vaccines.

mRNA 'Vaccines' Failed to Meet Expectations

Unfortunately, the mRNA products against COVID-19 failed miserably to live up to Health Canada's definition of an ideal vaccine. First, they fail to protect against infection and acquisition of disease. And, on the basis of fifth doses (and beyond) now being recommended in Canada, they don't come close to being effective with a single dose. Alarmingly, this means the entire premise of using them as vaccines to avoid multi-dose-associated toxicities has been lost. As such, Health Canada would likely be compelled to define the mRNA COVID-19 products as being as far from ideal as one can possibly get while still trying to cling to the otherwise elegant concept of a vaccine. Remarkably, in the United States, they had to change the definition of a vaccine to be able to apply this term to this technology once the aforementioned flaws were unveiled by the public rollout. At the end of the day, the public are expected to make their own informed decisions about vaccines, and their general perception matches the classical textbook definition of a vaccine, which is something that induces an immune response that protects a person from getting the disease and prevents them from transmitting the causative agent to others. As such, the public needs to be aware of how far from a benchmark vaccine the mRNA products are.

The COVID-19 'Vaccine' Rollout Has Revealed Troubling Features of The Technology

Global experimentation on the public has revealed key problems with mRNA 'vaccines' that public health officials decided were not best studied prior their rollout. These include:

1. Induction of immune responses that are far from protective. They cannot prevent infection, nor transmission. This means that they apply a sub-lethal immunological selection pressure against pathogens that are prone to mutation. This is a classical recipe for driving the emergence of variants that can evade the immune system. In short, it is not only probable but even likely that the mRNA products have accelerated the emergence of the new variants of SARS-CoV-2 that we keep hearing about.
2. Identification of safety signals. Members of the public, outside of the context of the official and ongoing clinical experiments, have been used to identify an array of side-effects that were missed in the rush to get the mRNA products to market. These adverse events have the potential to be lethal. Publicly admitted ones include blood clots, myocarditis, pericarditis, and anaphylactic shock. The very mechanism of action

of the mRNA products is cause for concern. Getting a person's own cells to express the spike protein from SARS-CoV-2 means, by definition, that those cells will be killed by the ensuing immune response. The degree of this self-destruction and whether it can spill over into long-term autoimmune diseases remains understudied and actively debated within communities that still allow reasonable discussions to occur uncensored. By virtue of sole reliance during the rollout on passive monitoring systems, which substantially underestimate side-effects, additional dangers are also the subject of ongoing heated debates. Regardless, mRNA vaccines are admittedly unsafe and even lethal for at least some recipients.

3. mRNA vaccines are injected into muscles, get distributed throughout the body seeding a wide array of organs and tissues, and these vaccines can be shed from the body. For example, it was recently demonstrated that mRNA COVID-19 'vaccines' could be detected in the breastmilk of nursing mothers.

MAJOR CONCERN: Veterinary mRNA Vaccines Are Being Fast-Tracked for Rollouts

One Health: Vaccinating Animals to Protect the Health of People

The concept of 'one health' is that the health of people, animals, and the environment are interlinked and interdependent. The health of one can potentially impact the health of the other two. For example, the most potentially dangerous forms of the 'flu' occur when human influenza viruses exchange chunks of genetic material with influenza viruses that infect pigs and birds. This can result in outbreaks in the human population of swine and avian flus. There are also zoonotic pathogens that can be transmitted, unchanged, from animals to people. As such, there are growing efforts to to promote global human health by mass vaccinating animals. The concept is elegant. If the animals can't get a disease and transmit the causative agent to people, this could avoid outbreaks in the human population.

One Health: Fast-Tracking of Veterinary mRNA Vaccines

Some people may be unaware that a large number of mRNA vaccines are being developed with the goal of administering these to species of veterinary interest. The first clinical testing of a mRNA vaccine was actually in cattle, preceding the rollout into people. Australia has a good example of new mRNA vaccines against Foot and Mouth Disease and

Australia has a good example of new mRNA vaccines against Foot and Mouth Disease and Lumpy Skin Disease being fast-tracked as a way to address the economic impact of these diseases on their livestock industry. Yes, warp speed-like development of mRNA vaccines has been adopted by the veterinary industry. I encourage you to conduct a literature search, which will show that mRNA-based vaccines are being developed for a wide array of other pathogens, including influenza viruses in poultry and swine.

Why Should People Care About mRNA Vaccines for Veterinary Applications?

There are at least three reasons…

1. If veterinary mRNA vaccines targeting pathogens that can infect people are as far from meeting Health Canada's definition of an ideal vaccine as the COVID-19 products, then massive numbers of animals will be conferred with far from sterilizing immunity. This, in turn, could produce massive reservoirs of animals around the world that can promote the emergence of unique and potentially immuno-evasive variants of zoonotic pathogens that could then infect people. Global regulators must insist, without compromise, veterinary mRNA immunization products for zoonotic pathogens confer sterilizing or near-sterilizing immunity, unlike the mRNA 'vaccines' for people. This means that animals receiving these products should not be susceptible to the target disease, nor should they be able to transmit the causative agent to others, especially humans. Unlike COVID-19 'vaccines', veterinary mRNA vaccines should be required to undergo formal transmission testing as part of their approval process.
2. COVID-19 mRNA 'vaccines' are injected into muscles, they distribute throughout the body and can leave the body such as via breastmilk. What if the vaccines can get into edible tissues of food animals? It would not be safe for people to consume veterinary mRNA vaccines in milk, eggs, and meat. Careful testing needs to be done to determine how long mRNAs from vaccines last in veterinary species. This would determine, in part, the 'wash-out' period, which is how long one needs to wait before obtaining food from agricultural species to ensure humans are not exposed to the medical product. Worse, wherever mRNA can be found, we can likely expect there to also be the protein that it encodes. **This represents one of my biggest concerns about veterinary mRNA vaccines.** Proteins are more durable and, therefore, longer lasting than mRNAs, and the synthetic mRNAs in vaccines last much longer than their natural counterparts. The potential problem here is the phenomenon of **oral tolerance**. Our immune systems are designed to interpret things that we eat as being non-dangerous. This is

to avoid harmful chronic inflammation in our gastro-intestinal tract, as well as food allergies. When we eat something, even in tiny quantities, our immune system gets programmed to ignore it. Now, consider the possibility of eating or drinking key target proteins from pathogens that are dangerous to people. If our immune systems were to be trained to ignore these critical parts of pathogens, we would become more susceptible to the diseases they cause. By virtue of trying to protect ourselves by vaccinating animals, we could, theoretically and counterintuitively, render ourselves more susceptible to diseases. This could be disastrous for public health. Talk about a potential downside of 'GMO foods' (GMO = genetically modified organism).

3. Concern for the well-being of the animals, especially if multiple different mRNA vaccines that require repeated dosing are used. mRNA vaccines are not entirely safe in people, especially if more than one dose is administered, and this may apply to animals as well. Care must be taken to ensure that animal welfare is preserved, along with their ability to reproduce efficiently. Research in animals represents an ideal scenario to conduct extensive and careful studies into the safety of mRNA vaccine technologies, including addressing the numerous legitimate, well-rationalized safety questions that have been raised but largely ignored during the rollout into humans.

The Precautionary Principle

In this article, have I proven risks of veterinary mRNA vaccines? No, that was not the purpose. It is possible that these concerns will one day be allayed by the careful conduct of scientific investigations; and let's hope that is the case. However, as a medical scientist, I lean on two key principles when it comes to public health and safety…

1. Hypotheses that are formulated with a strong scientific rationale are the legitimate starting point for discussions and investigations.
2. The precautionary principle is that novel medical products should never be implemented into practice until very high standards of safety and efficacy have been proven. And when it comes to safety, this would include addressing all well-rationalized scientific concerns, including those that were deemed inappropriate to raise during the rollout into humans. Hopefully, a return to our scientific roots and principles will be allowed prior to veterinary mRNA vaccines being licensed for routine use.

What to Do

1. **Scholarly debate**. No scientific topic should be off-limits for respectful discussions.

The issues raised in this article should be critically assessed to either affirm or allay these concerns. After all, robust, uncensored scholarly debate represents the best way to ensure both the safety of the public when it comes to novel medical technologies, including making sure they are fully informed when making their own decisions.

2. **Research**. Governments need to recognize the potential for mRNA vaccine technologies to not only have positive global impacts on health, but also the possibility of substantial negative outcomes. mRNA vaccines and funds for research need to be made readily available to third-party investigators to run critical experiments to address questions like, but not limited to:

- Do veterinary mRNA vaccines induce immune responses that protect against infection?
- Do they protect against transmission of the causative agent of the disease?
- Do veterinary mRNA vaccines or any of their components, including the proteins they encode, get into milk, meat, eggs, and/or other food products (*e.g.,* livers, *etc.*)?
- If so, how long are they present?
- Can consumption of proteins from zoonotic pathogens potentiate oral induction of immunological tolerance that would render a person more susceptible to the disease being targeted?

In the Meantime: A Call for a Moratorium on Licensing Veterinary mRNA Vaccines

Until the concerns raised in this article are definitively addressed, it is my expert opinion that no mRNA vaccine intended for veterinary use (nor any for human use, for that matter) should be licensed by any regulatory body. This is for the sake of both human and animal health. Overly rapid deployment of this technology anywhere in the world has the potential to cause public health problems elsewhere on the globe. After all, pathogens do not respect boundaries. Those developing mRNA vaccine technologies need to give consideration to their fellow human beings. What you do could impact the health of those around you, and not necessarily for the better.