

Communicating disease and immune response

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“Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less...” Marie Skłodowska Curie (born 1867 Poland, died 1934 France)

Abstract: Growing number (currently about 15%) of cases of COVID-19 virus infections cannot be explained by “established mechanisms” such as transmission of virus proteins by direct *mechanical* contact with virus-contaminated surfaces or droplets. On the other hand the evidence emerges that the virus pandemic slows down much faster in areas where a large number of people have *recovered* after contracting the virus [2]. This article is an attempt to provide an explanation by considering a role of information processing and transfer in transmitting diseases and recovery. Discussion points out to a possibility of controlling pandemics in absence of vaccines.

Immune system

The role of the “immune system” is defending living organisms (protecting life) from various perturbations, injuries, poisons and other life-disrupting interference. Universally observable properties of normally functioning immune system in living organisms include

1. Ability to *recognise* threats
2. Ability to *adapt* coherently to unexpected circumstances if given *enough time*
3. Ability to *remember* previously encountered threats
4. Ability to *learn*

Above properties are signs of *intelligence*. For this reason we should admit for consideration that the immune system functions *intelligently* and that the fundamental essence of the immune system is *intelligent information processing*.

Immune system must first *recognise* a threat and then *coherently coordinate* the response of a living organism it aims to protect - using available means and limited resources within this organism.

Problems arise when immune system does not recognise a threat quickly enough. This may happen when virus proteins are very similar to proteins already existing inside cells and/or the immune system itself has insufficient *information-processing resources* (such as memory) because it is already engaged in responses to multiple other threats.

It is important to stress that *time* is needed for the immune system to learn to respond to new threats. A well-known example of giving *time* to the immune system to learn and respond is the recommended first-aid to a poisonous snake bite in Australia. (Snake poison is also composed of proteins, just like a virus). Applying a pressure to a bitten area combined with prolonged immobilisation *slows down* the spread of poison in the organism and therefore provides *time* for the immune system to *learn* how to respond to save life.

Viruses

Viruses are protein structures that are not “alive”. By themselves viruses cannot move, cannot reproduce and do not have metabolism. Virus relies on “host organisms” to absorb it, metabolise it and then re-produce it in greater numbers within their own cells.

Since viruses are absorbed, metabolised and then re-produced by cells of host organisms in order to

exist, we may consider them “poisons” that have the ability to surprise and disorient the host organism's immune system for a period of time. Severity of a viral disease is determined by the speed and coherence of the immune system response/adaptation, which is individual for each person.

Role of information transmission and processing

Since host organisms are capable of producing a virus by themselves, is it possible that they can begin producing the virus on the basis of *information* received from the environment and from other organisms?

Since immune system has an ability to *learn*, what is the likelihood that healthy organisms can *learn* from immune systems of organisms who successfully fight/fought the disease to survive?

Are there any indications in history that the information transmission and learning can actually take place?

One well-known observable phenomenon is so-called “herd immunity”. Disease rarely destroys the entire herd (a large group of individual organisms). A percentage of the herd dies from the disease, another percentage contracts the disease and recovers and the remainder of the herd gains immunity without contracting the disease.

All pandemics in history of humanity had ended this way even though people at the time were unable to understand what was happening to them. All past pandemics (without exception) stopped because survivors and individuals who never contracted the disease have *both* developed an immunity.

“Herd immunity” effect seems not to work too well in some groups of *genetically copied* organisms. Diseases are known to wipe-out entire populations of genetically-too-similar organisms.

Another historically well-known epidemic control practice is deliberately exposing healthy individuals to people who are in the process of successful recovery from the disease.

An example includes doctors and immunologists in Europe and in Russia who organised group visits of healthy children to individual children who were recovering from mumps or other infectious diseases. Some of these visitor children developed very mild version of these diseases but all visitor children gained immunity without experiencing inconvenient symptoms.

Pandemics seem to stop when there are enough individuals who successfully recovered from the disease. Interestingly, this is what we observe with the current COVID-19 virus pandemic. The pandemic has slowed down to a halt *only* in the location where some 80,000 people have recovered from the disease [2]. The herd effect seems to work even when all members of the herd have observed strict social isolation for months. It seems that 80,000 people who recovered can “protect” millions around them by broadcasting their newly learnt immunity.

Fear

Sustained fear is known to disturb logical thinking, logical functioning and health.

Author experiments with electro-photonic medical diagnostics called GDV (Gas Discharge Visualisation), used in Russia since 1990 without limitations, show that signs of real disease (pathology) are indistinguishable from the *fear* of this disease in GDV diagnostic images [1].

This result suggests that people can virtually “create” diseases within their own bodies by cultivating fear of these diseases. Fear is specific form of *information* that is likely to find the way to the immune system and engage its resources in a process that is imaginary to begin with.

Transmitting the information

By what means can living organisms transmit information about their functioning?

When we place a plant in a Faraday cage (a metal enclosure that blocks all electromagnetic fields, except gravity) the plant will struggle and die, no matter how many nutrients we provide. While the above has only been tested on plants, it is highly likely that all living organisms in an ecosystem exchange information wirelessly by means of electromagnetic radiation they emit, such as an infrared body heat for example.

Other possible mechanism of information transfer is via quantum entanglement, the ultimate and illusive goal of the information transfer technology on Earth today that Nature is likely to be using already to begin with [1].

Conclusions

- Observations suggest that information transmission between living organisms not only takes place, but it is an important factor in Nature to preserve and maintain Life.
- Transmitted information seems to be able to communicate not only states of “disease” but also a state of “harmony and order” as well as “pathways to recovery” and “immunity”.
- Preliminary observations discussed in this article suggest that information transmission between living organisms should become a subject of studies. In particular, the response of the immune system of healthcare professionals who successfully nursed infected individuals to recovery and the immune responses of survivors' families should be investigated to see if they developed immunity without contracting the disease.
- Immune system learning by transmitting specific information has the potential to be a long-term alternative to vaccines. Instead of vaccinating people against a disease – it should be possible, cheaper, faster, more direct, up-to-date and less risky to arrange contacts of healthy people who need to gain immunity with people who successfully recovered from the disease in question
- It seems that a pandemic of unknown and highly contagious virus can be controlled by encouraging people to engage in contact with those who successfully recovered from the infection. Just like one person can infect many, one survivor can “broadcast” and “teach” immunity to many people who haven't yet contracted the virus.
- Nature provides us with ways of helping ourselves in adverse situations. All is required is intelligent observing and following processes observed in Nature.

References

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