British Journal of Healthcare and Medical Research - Vol. 12, No. 01
Publication Date: February 25, 2025
DOI:10.14738/bjhr.1201.18337.
Tarro, G. (2025). Bird Flu as Next Health Risk for Human Being. British Journal of Healthcare and Medical Research, Vol - 12(01). 316-319.

Bird Flu as Next Health Risk for Human Being

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ABSTRACT

Pepole are protected by H5N1 strains already circulating as well as by vaccinated healthy volunteers. The treat of a new infections from wild bird is spreading among animals that provide us with milk and are causing disease in people. It is possible that the capacity to attache to human cells and then to spread and to develop mutations allowing seasonal flu to exchange genetic information and spreading by a new strain. Therefore, the need to develop a new vaccine that could be used in case of outbreak.

Keywords: Bird flu, hRSV, Influenza, SARS-CoV-2, African coronavirus

INTRODUCTION

I like to explain the puzzle concerning the lack of coronavirus outbreaks in Africa. One hypothesis that can explain the disparity between Africa and other continents concerns the overall age of the population: according to the parameter the population of Africa is younger than in regions hardest-hit by COVID-19. Some researchers have shown that other human coronaviruses that cause common colds can elicit an immune response that could provide protection against COVID-19.

The same crowded neighborhoods that would lead to the quick spread of other coronaviruses may have protected the population from SARS-CoV-2 (1).

Some level of pre-existing cross-protective immunity might explain why the epidemic didn't unfold the way it did in other parts of the world. Professor Shabir Madhi said <the protection might be much more intense in highly populated areas, in African settings. It might explain why the majority (on the continent) have asymptomatic or mild infections> (2).

Different background of immunological response according to previous zoonotic experience with coronavirus were reported by Tarro (3).

METHODS

According to the experience of the first SARS and of the MERS, the children were not exposed to the civet cat and camels in a similar way (4). It was thought that the same fact could take place with the SARS from COVID-19. Indeed children are infected with the virus without suffering a serious disease and represent an important source of infection. The virus is found in their rectal swabs (5).

Growing with age many specific cells of the immune system are no longer active and therefore the body loses its ability to respond effectively. In fact, it has been experimentally proven that

young mice respond to lung tissue damage from viral infection through prostaglandins, while adult mice succumb (6). The juvenile immune system and its efficient T Helper cells respond to SARS COVID 2.

RESULTS

The Helper cell's CD4 lymphocytes stimulate B cells to produce antibodies against the virus and control infection. In this case Th2 lymphocytes are able to control the inflammatory response caused by the viral infection, preventing an exuberant and delayed reaction as occurs in adults. The different hormonal structure and the same prostaglandins favor the female subject against the coronavirus responsible for the current pandemic (7).

The mortality rate associated with COVID-19 may be considerably less than 1%, rather than the 2% reported by some groups, as stated by Anthony Fauci of the U.S. National Institute of Allergy and Infectious Diseases based on a report focusing on 1099 patients with laboratory confirmed COVID- 19 from 552 Chinese hospitals (8). These patients had a broad spectrum of disease severity, and if it is assumed that the number of asymptomatic or minimally symptomatic cases is several units of magnitude greater than that of the reported cases, the fatality rate of the disease would fall far below 1% (9). This suggests that the overall clinical consequences of COVD- 19 could ultimately be similar to that of severe seasonal flu, which has a fatality rate of approximately 0.1%, or pandemic influenza such as that of 1957 or 1968, rather than those of SARS or MERS, characterized respectively by a fatality of 10% and 36%. Passive immunotheraphy has been suggested for coronavirus (10).

DISCUSSION

The history of influenza viruses teaches that influenza originates from volatile, generically aquatic animals, and then passes to man through the "jump" in pigs. The promiscuity of the farms, as it is used in Asia, determines this passage and then the spread. This gave rise to the Spanish flu (1918, H1N1), the Asian flu (1957, H2N2), that of Hong Kong (1968, H3N2) and so on. The strains spread in some years may also present relationships with those of other years. The swine origin influenza virus (S-OIV) detected in April 2009 in Mexico, Canada and USA exibthed an unique genome composition not shown before (11). According to the flu vaccinations compaign, influenza vaccine is produced before the start of the flu season, which means that the virus almost never coincided with does tested early to produce the vaccine.

Western season with epidemic influenza viruses, human respiratory syncytial virus (hRSV) and SARS-CoV-2 strains are circulating as usually this year (12). Specific antivirus vaccines are suggested even if not always with logic criteria, but there is no way to reason against the drugs producers (13, 14).

CONCLUSION

The main component of the viral family for human pathology was the agent of the small pox, the first disease to be eraticated by a vaccine.

To be able to talk about a real prevention technique, based on the use of the pathogen itself to immunize the organism, it is necessary to take a time jump up to 1796, the year in which the English doctor and naturalist Edward Jenner developed the first vaccine. Jenner had noticed that the milkmaids who lived in the county and who had contracted the minor disease called

URL: http://dx.doi.org/10.14738/bjhr.1201.18337.

cowpox did not get sick even when smallpox was spread epidemically in the community. Consequently, on May 14, 1796, Jenner used material infected with cowpox virus, obtained from a milking machine, to inoculate an eight-year-old boy. In July of the same year, the doctor deliberately inoculated the same child with biological material taken from a subject with human smallpox. The child did not develop the disease and this demonstrated the effectiveness of the first form of smallpox vaccination (15). Thanks to the use of this vaccination, universally adopted in the world since the nineteenth century, the World Health Organization has declared that smallpox has been completely eradicated from the planet, starting in 1979.

According to the last paper just published (16), the battle for Ebola let us use today a possible life-saving treatment that needs to be avaiable for everyone according to the WHO against any global health inequity.

ACKNOWLEDGMENTS

The author thanks for their support: Foundation T. & L. De Beaumont Bonelli for Cancer Research. Naples, Italy.

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