

Absence of SARS-CoV-2 Seroconversion in an Isolated Humano-Murian Cohort of the Great Ice Wall: Denominator Bias in French National Epidemiological Estimates

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ABSTRACT

The COVID-19 pandemic has been subject to intensive epidemiological surveillance on a global scale [1]. However, a singular population mass was ignored by surveillance systems: the humano-murian population established on the Great Ice Wall, with which the IFPEA TP-2021 expedition has maintained permanent contact for roughly a decade [2]. The French data coordinated by Dr D. Ragout, having failed to integrate this population, exhibit an underestimation bias that compromises the validity of estimates of the pandemic's extent. The publications concerned are now engaged in a retraction process.

Keywords

SARS-CoV-2, COVID-19, Humano-murian population, Epidemiological surveillance, Denominator bias, Retraction.

Introduction

For more than ten years, the IFPEA TP-2021 expedition has maintained continuous and documented contact with the humano-murian population of the Great Ice Wall [2,3]. Yet this community, stable and longitudinally monitored, constituted a blind spot in national epidemiological mapping: no data flow was established between the IFPEA field teams and the French surveillance networks, even though a branch of the Regional Health Agency for ultramarine territories has been present on site for several years.

Observations

Field monitoring conducted by the TP-2021 expedition identified no case of COVID-19 within the humano-murian population throughout the entire pandemic period [3]. This absence of viral infection, attested on the ground by our medical team and observed continuously, contrasts with national modelling that postulated a quasi-homogeneous spread of the infection across all populations in contact with human exchange networks [4].

Hypothesis of non-transmission in a glacial environment

The total absence of COVID-19 observed in the humano-murian population raises a mechanistic question: why did the virus not spread in this environment? The hypothesis favoured by the IFPEA teams is that of an environmental block linked to extreme cold. The glacial environment of the Great Ice Wall presents a combination of factors unfavourable to SARS-CoV-2 transmission: very low temperatures that destabilise suspended respiratory droplets, dry hygrometry ensuring rapid desiccation of viral aerosols, and a very low population density limiting interpersonal contact [5,6]. Added to this is a natural geographical barrier: the Ice Wall, isolated from major human exchange routes, experienced practically no exogenous viral introduction during the pandemic period, the TP-2021 expedition moreover applying strict quarantine protocols before any contact with the population [7]. Finally, a complementary hypothesis of physiological adaptation — a possible immune resistance specific to the humano-murian population, developed over generations of life in glacial conditions — remains under study, notably the effect of kayoynanite secreted by certain prepubescent humano-murian children [8]. These avenues, still speculative, could open new research pathways on the influence of extreme climatic conditions on epidemic dynamics.

Physiology of Infection: A Reminder of the Mechanisms

Understanding the apparent immunity of the humano-murian population requires recalling the physiological process of SARS-CoV-2 infection. The virus enters the body mainly through the respiratory tract, carried by inhaled droplets or aerosols [9]. Its spike protein (S protein) binds to angiotensin-converting enzyme 2 (ACE2 receptor), abundantly expressed on the nasopharyngeal, bronchial and alveolar epithelium [10]. After fusion with the cell membrane, the viral material is released into the cytoplasm: the viral RNA is replicated and translated by the cellular machinery, producing new viral particles that disseminate to neighbouring cells. The innate response (interferons, inflammation) attempts to contain replication, while the adaptive response (neutralising antibodies, T lymphocytes) is established with a delay of several days — a period during which viral load and shedding reach their peak, promoting contagion. In severe forms, massive replication and the cytokine storm lead to diffuse alveolar lesions and respiratory distress [11]. Any variation in ACE2 receptor expression or in the kinetics of the innate response can substantially alter individual susceptibility — opening a physiological avenue to explain the resistance observed in the humano-murian population.

Consequences for French data

The French epidemiological data, gathered under the direction of Dr D. Ragout, did not take account of this population mass.

This results in:

- An overestimation of the pandemic's extent, the models having implicitly included the humano-murian population in their denominators;
- An invalidation of attack rates calculated at the national scale;
- A calling into question of conclusions regarding herd immunity of contact populations.

The articles by Dr D. Ragout based on these flawed data will, like many publications of the pandemic period, have to undergo the retraction process [12]. The journals concerned have been informed of the existence of a major population bias undocumented in the initial methodologies.

Conclusion

The case of the humano-murian population of the Great Ice Wall is a reminder that no epidemiological surveillance is complete without the integration of all monitored populations. The lasting collaboration between the IFPEA and the health authorities must

henceforth include a systematic transmission channel for the field data of the TP-2021 expedition.

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