Qeios

Peer Review

Review of: "Human Metapneumovirus: What We Know So Far – A Mini Review"

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Summary

The authors provide a summary of their review emphasising that HMPV is a respiratory pathogen with likely avian origins that has been in human circulation for at least half a century.

They underscore its risk to young infants and the vulnerable. They cite that during the 'tripledemic', wastewater surveillance indicated overlapping peaks of influenza A, RSV, and SARS-CoV-2, with localised HMPV. Severity, they assert, correlates with advanced age and chronic conditions. Lacking either an efficacious therapeutic or vaccine, MAb that target the F protein suggests a potential therapeutic. Data from Taiwan and Indonesia indicate almost year-round circulation, particularly in young children, with substantial genetic diversity.

General comments

Overall, this manuscript is well-written, clear, easy to read, and well-referenced with up-to-date and relevant citations.

As the authors point out, this is a mini review. As such, the paper's introduction to HMPV is brief, moving quickly to point out why it likely originated from avian metapneumoviruses and how long it's likely circulated amongst humans, before moving into wastewater monitoring and how HMPV circulation differed during the observation period from that of the other viruses mentioned in the summary above. Though brief, the authors contrast the risk associated with young infants, particularly in LMICs, from that of older Europeans. It is not entirely clear why only a contrast with Europe is drawn, and the authors could spare one or two sentences on what is known about global epidemiology, particularly since their report highlights Eastern Asia.

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The discussion of antiviral and vaccine targets, specifically the fusion (F) protein, is concise but sufficiently detailed to set the stage for their further discussion regarding the pre-fusion protein research underway in animal models.

Under HMPV in Taiwan, the authors provide data on samples from 2016-2018 in adults with RTIs. It would be helpful to readers if the age range, including mean or median, along with other key demographic data (sex distribution), was included for clarity on the at-risk population. The authors had already provided information about older women in Europe being a higher risk group for more severe infection and outcomes, whereas no similar data are provided for Taiwan. Regarding the community viral surveillance data, it is not clear how/where these data are from. Was this from outpatient clinics, schools, home visits, etc.? It would be useful in order to assess the representativeness of the data. Even a footnote would help if brevity is an issue. Although more information is provided regarding the data from Indonesia, a similar observation applies in order for consistency within the paper.

As for the conclusion, it would be aided by summarising the interpretation of the findings provided in the two Asian sites, including how this adds to the knowledge base of HMPV epidemiology, including any recommendations for further or ongoing surveillance for these regions.

Specific comments

None.

Declarations

Potential competing interests: No potential competing interests to declare.