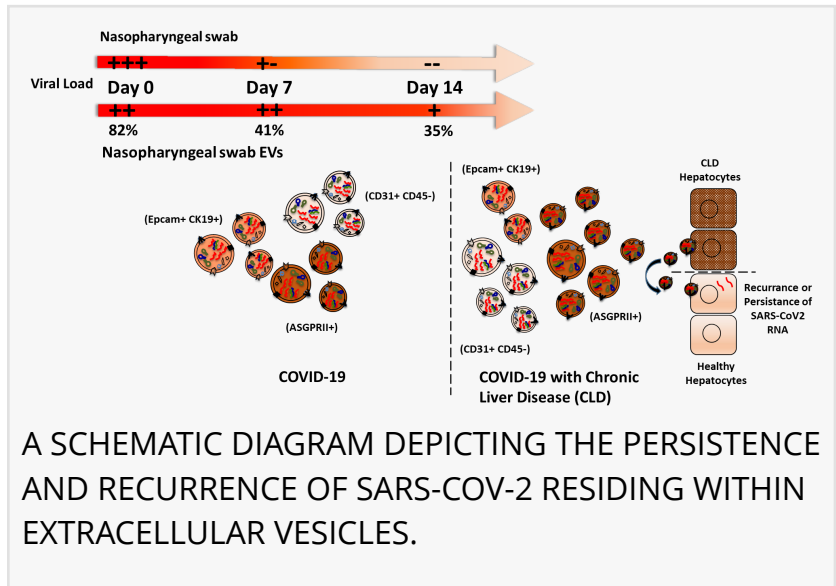


Silent Carriers: Long-Standing SARS-CoV-2 RNA in Respiratory Vesicles

CHINA, December 15, 2023

/EINPresswire.com/ -- [SARS-CoV-2](#)

persists in the respiratory tract, notably in patients with underlying co-morbidities including liver disease. Extracellular vesicles (EVs), acting as molecular reservoirs, contain SARS-CoV-2 RNA even in RT-PCR negative patients, suggesting persistent infection. EV-associated RNA could influence the clinical progression of the disease.



The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has posed unprecedented challenges worldwide. While extensive efforts have focused on understanding the clinical features, diagnosis and treatment of COVID-19, certain aspects of the virus behavior, such as reactivation and recurrence, remain elusive.

Recent research has shed light on a potential hidden reservoir of the virus that might contribute to its persistence and reoccurrence. Studies exploring extracellular vesicles (EVs)—microscopic particles released by cells—have uncovered an important piece of information: SARS-CoV-2 RNA was present in EVs in individuals tested negative via standard RT-PCR methods.

Even individuals deemed virus-free by conventional tests, the presence of SARS-CoV-2 RNA within EVs may indicate a potential source for recurrent infections. Moreover, these infected EVs have demonstrated the ability to transmit the virus to previously unaffected cells in laboratory settings, pointing to a previously unrecognized route of transmission.

The study was published in the KeAi journal Liver Research.

The finding holds promise in addressing the challenges faced in COVID-19 diagnosis and management. Current diagnostic tools, while valuable, have limitations, including occasional false negatives due to factors such as sample collection technique and viral load. Detecting SARS-CoV-2 RNA within EVs might offer a more sensitive and rapid diagnostic approach,

potentially aiding in identifying individuals with persistent or recurrent infections.

Furthermore, the presence of SARS-CoV-2 RNA in EVs, not only in respiratory samples but also in plasma, enables more opportunities to understand the virus behavior beyond the respiratory tract. These insights into the underlying mechanisms of viral persistence and recurrence offering new avenues for therapeutic interventions.

“The identification of SARS-CoV-2 RNA in EVs underscores the need to explore alternative diagnostic methods that leverage this discovery, potentially revolutionizing our ability to detect and manage COVID-19 infections more effectively”, says Sukriti Baweja, lead author of the study.

DOI

10.1016/j.livres.2023.09.004

Original Source URL

<https://doi.org/10.1016/j.livres.2023.09.004>

Funding information

The work was funded by Science and Engineering Research Board (SERB) short term COVID-19 support grant, India (No. CVD/2020/001034).

Lucy Wang

BioDesign Research

[email us here](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/675215240>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2023 Newsmatics Inc. All Right Reserved.