

Cancer treatment could be replicated for COVID-19

November 3 2020, by Candy Gibson



Cancer cell during cell division. Credit: National Institutes of Health

Beta-blockers could potentially be used to treat COVID-19, according to a new international study by Italian and Australian scientists.

University of South Australia cancer researcher, Dr. Nirmal Robinson, working with a team in Naples, has found evidence in animal models that the beta-blocker Propranolol helps suppress the spread of cancer in the lung which has an inflammatory profile very similar to COVID-19.

The scientists have presented their findings in a paper published in *Frontiers in Immunology*, calling for [clinical trials](#) to support their research.

Dr. Robinson, head of the Cellular-Stress and Immune Response Laboratory at the Center for Cancer Biology, says Propranolol is commonly used to treat heart conditions, anxiety and migraine. Recent clinical trials have shown its effectiveness for other conditions, including cancer.

"Patients with COVID-19 suffer from many abnormalities, including inflammation, because the SARS-CoV-2 virus disrupts the body's immune system. Beta-2 blockers could potentially reduce this inflammation and help rebalance the immune system," Dr. Robinson says.

Beta-blockers including Propranolol are medicines that work by temporarily stopping or reducing the body's natural "fight-or-flight" response. In return, they reduce stress on certain parts of the body, such as the heart and [blood vessels](#) in the brain.

They have also been suggested as a treatment option for autoimmune diseases such as rheumatoid arthritis.

"SARS-Cov-2 enters the [human cells](#) through the protein ACE2, infecting the [lower respiratory tract](#), causing profound inflammation and multi-organ failure. Patients with comorbidities, such as high blood pressure, diabetes and heart disease, are at much higher risk," he says.

Other inflammation suppressors, including Tocilizumab (an immunosuppressive drug prescribed for arthritis) and Ruxolitinib (a drug used to treat the rare bone marrow blood cancer, myelofibrosis) have already been used to treat the more serious COVID-19 cases, the researchers say.

"We believe the beta-2-adrenergic pathway should be more deeply investigated as a possible target to reduce the inflammatory symptoms related to COVID-19. The next step is to perform clinical trials to explore an alternative therapy to treat COVID-19, based on the lessons we have learned from cancer," Dr. Robinson says.

More information: Antonio Barbieri et al. Can Beta-2-Adrenergic Pathway Be a New Target to Combat SARS-CoV-2 Hyperinflammatory Syndrome?—Lessons Learned From Cancer, *Frontiers in Immunology* (2020). [DOI: 10.3389/fimmu.2020.588724](https://doi.org/10.3389/fimmu.2020.588724)

Provided by University of South Australia

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