

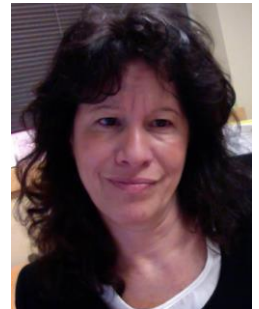


An Update from the MDS Scientific Issues Committee

- Stella Papa, MD, Chair, MDS Scientific Issues Committee
- Un Jung Kang, MD, Co-Chair, MDS Scientific Issues Committee

In recent years, the MDS Scientific Issues Committee (SIC) has initiated new activities aligned with the objective and mission of the society, particularly in relation to advancing the science of movement disorders. One of the new activities was the production of SIC Blogs with the goal of increasing the communication of scientific information to the global movement disorder community. In addition, the SIC has launched the Scientific Panel Discussions intended to identify and communicate research directions that are deemed best candidates to advance the knowledge and treatment of movement disorders.

The SIC began producing blogs in 2016, and since then all blogs were freely accessible in the [MDS website](#). These blogs are a useful tool to disseminate scientific information and opinions of experts with differing or complementary views on an important topic that may be controversial, newly emerging, not ripe for full scientific review or viewpoint articles to wider spectrum of audiences including scientists, clinicians and other health professionals, and patients. This initiative has been a success since its inception with the first blog: “Inflammation in Parkinson’s disease” written by Malu Tansey, David Sulzer and David Standaert, and edited by Michael Okun (Past-SIC Chair) and Stella Papa.



Stella Papa, MD

Blog topics are selected by SIC members focusing on new clinical and scientific developments, controversial issues, theme updates, novel technologies, scientific advances, or other areas of current interest. To date, the SIC has produced 39 blogs that include a variety of categories covering the interests of our diverse readership. For example, the following blogs are a representative sample of such a diversity: “LRRK2 in idiopathic Parkinson’s disease” - “Rehabilitation as a therapeutic approach for dystonia” - “Artificial intelligence in drug discovery” - “Hey Siri, do I have Parkinson’s?”



Un Jung Kang, MD

Since the start, blogs appeared in the website at a monthly rate with a break usually around the annual congress. In 2019, the committee, in consultation with the Website Editorial Board, conducted an evaluation of the blogs’ performance by analyzing the total page hits for each SIC blog. After computing all web traffic sources, blogs had an average hit of 1,931 with some blogs reaching 10,000 hits during the time assessed. Considering that the exposure times were variable, and too short for the latest blogs, the overall hit is highly significant. Clearly, these excerpts of the latest developments, concepts and views that often include dialogues about conflicting data and controversial views provide a unique material to the readership.

The Scientific Panel Discussions arose from an initiative of the SIC in consultation with the Society leadership to develop an activity focused on advancing research that could enhance the Society’s contribution to the basic and clinical scientific community. The plan was to gather a panel of experts for a formal discussion and consensus about research needs in a particular area. This activity was designed to target areas that have recently emerged, pose clinical/scientific challenges, or are the focus of growing research. In every topic, the panel is formed by top leaders in the field including clinicians and scientists with the goal to critically analyze the gaps in knowledge, the past and current research, and the potential paths to make progress.

The panel discussion will be published as peer reviewed articles using an appropriate format as recommended by the editors of the Movement Disorders journal. In addition, the key points of the discussion and the consensual conclusions on future research directions will be presented in a document, as MDS SIC-Research Directives. The document will provide a source of consultation for the global community, societies and foundations promoting research, and governmental and non-governmental funding organizations setting research priorities.

The first in the panel discussion series has been organized in the past fall, and began activities during the winter almost overlapping with the COVID-19 outbreak. Nevertheless, progress has been made through virtual meetings and remote work, and now the panel has entered the final discussion and writing phase. It is expected that the article and accompanying research directives document will be finalized in the next few weeks.






The SIC also continues to make additional contributions as needed in our community. Early in the COVID-19 pandemic, the SIC prepared the first MDS statement and coordinated the efforts of a group of MDS members to rapidly write the viewpoint article “Impact of the COVID-19 pandemic in Parkinson’s disease and movement disorders” for publication in the Movement Disorders journal. More recently, the SIC has completed the preparation of an updated MDS position paper on the “Use of cell-based therapies for Parkinson’s disease”. The paper release to the public is currently in process.


Back in 2016, we were excited about our plans to renew the committee activities, and especially about launching the SIC Blogs, and thereby contributing to spreading scientific discussions in an informal format and means widely accessible. Our blogs met our expectations with a positive reception by the readership. We are again excited about the Scientific Panel Discussions just launched, and the potential for a high impact of this MDS contribution in the scientific community. We hope our rigorous expert panel discussions become a reference worldwide for research direction priorities in movement disorders.

MDS SIC Blog

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MDS SIC Blog: COVID-19 and Movement Disorders: potential relationship and mechanisms



Date: August 2020

Prepared by SIC Member: Alvaro Sanchez-Ferro, MD

Authors: Tiago Outeiro, PhD.; Mariana HG Monje, Patrik Brundin, MD PhD

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The SARS-CoV-2 Pandemic represents a major global health challenge that we as movement disorders experts also have to face. Different efforts are trying to decipher the consequences that this impactful condition is having in our field. In this blog entry, two experts, Dr. Tiago Outeiro and Dr. Mariana HG Monje, addressed important open questions about the relationship of SARS-CoV-2 and movement disorders. We also had the privilege to include a final statement from Dr. Patrik Brundin outlining the key aspects about this enigmatic and impactful condition that will be studied in the history books of future generations.

Question 1: Could you please comment on the relationship between Movement Disorders and COVID-19?

Dr. Outeiro: This is indeed an important question that deserves close attention, given the global scale of the COVID-19 pandemic in a time when the human population is aging.

Fortunately, there is currently no evidence that patients with movement disorders are at increased risk for COVID-19, when compared to age-matched individuals. However, since COVID-19 is such a novel disease, it is still early to rule out the possibility that COVID-19 survivors may be at increased risk of movement disorders. Therefore, it is important that clinicians stay vigilant for a possible association, especially if we consider this possible connection from a molecular perspective. Movement disorders, of which Parkinson's disease (PD) is one of the most common, are typically associated with the misfolding and accumulation of proteins in the brain. This process is known to be age-associated but is also known to be associated with the impairment of cellular pathways that are also used by viruses, such as SARS-CoV-2, during infection. Therefore, based on our current understanding of the molecular mechanisms underlying both movement disorders and COVID-19, it is wise to hypothesize that, perhaps, a relationship may emerge. This is still speculative at this point, and should not cause unwanted alarm and unsettlement, but it is a hypothesis that needs to be considered and investigated.

Dr. Monje: A broad spectrum of neurological syndromes has been progressively described associated with SARS-CoV-2 infection. Neurological manifestations vary from unspecific symptoms (i.e. headache and myalgias, present up to 66% in those patients with neurological manifestations) to stroke and neuroinflammatory syndromes (Romero-Sánchez et al. 2020). In this scenario, even in the most extensive reported series, the appearance of movement disorders in SARS-CoV2 infection is scarce (Whittaker et al. 2020). So far, the few cases reported in the literature are hyperkinetic movement disorders, mainly severe generalized myoclonus/myoclonic tremor. The Movement Disorder Society repository of "COVID-19 and movement disorders observations" and the upcoming studies would hopefully give us a better description of the movement disorders associated with COVID-19.

Question 2: In your opinion are these phenomena immune mediated or a direct effect of COVID19 on the Central Nervous System?

Dr. Outeiro: To address this, we need to consider what we know about the pathological mechanisms involved. We know that SARS-CoV-2, the virus responsible for COVID-19, enters cells by strongly interacting with the ACE2 receptor (Yan et al. 2020). This receptor is expressed by cells in the respiratory system, and this explains why they may be particularly vulnerable. However, the ACE2 receptor is also expressed in several other tissues, including in the central nervous system, suggesting it may also directly affect neuronal cells in the brain. Indeed, recent studies have identified coronaviruses in the central nervous system, including in patients with neurodegenerative disorders (Gómez-Pinedo et al. 2020). This suggests there may be direct effects of SARS-CoV-2 in the brain.