

## 73<sup>rd</sup> AAN ANNUAL MEETING ABSTRACT

Media Contacts:  
Renee Tessman, [rtessman@aan.com](mailto:rtessman@aan.com), (612) 928-6137  
M.A. Rosko, [mrosko@aan.com](mailto:mrosko@aan.com), (612) 928-6169

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**Abstract Title:** Neurologic and radiographic findings associated with Pediatric Inflammatory Multisystem Syndrome Temporally associated with SARS-CoV-2 (PIMS-TS) in Children

**Press Release Title:** Half of Kids with Inflammatory Syndrome After COVID-19 Have Neurologic Symptoms

**Authors:** Omar Abdel-Mannan, M.D.<sup>1,2</sup>, Justin Penner, M.D.<sup>1</sup>, Jane Hassell, M.D.<sup>1</sup>, Imke Meyer-Parsonson, M.D.<sup>1</sup>, Ulrike Loebel, M.D.<sup>1</sup>, Zoe Berger, Ph.D.<sup>1</sup>, Lesley Cavalli, MSc Cert MRCSLT<sup>1</sup>, Sue Maillard, Dip Physio<sup>1</sup>, Ronit Pressler, Ph.D.<sup>1</sup>, Mae Johnson, M.D.<sup>1</sup>, Alasdair Bamford, Ph.D.<sup>1</sup>, Karyn Moshal, Ph.D.<sup>1</sup>, Yael Hacothen, Ph.D.<sup>1,2</sup>

<sup>1</sup>Great Ormond Street Hospital, London, UK, <sup>2</sup>Queen Square MS Centre, London, UK

**Objective:** Our aim was to report neurological manifestations of children with Pediatric Inflammatory Multisystem Syndrome Temporally associated with SARS-CoV-2 (PIMS TS)

**Background:** Neurological manifestations have been reported both in adults and children with coronavirus disease 2019 (COVID-19). Pediatric Inflammatory Multisystem Syndrome Temporally associated with SARS-CoV-2 (PIMS-TS) is a recently described severe post-infectious immune-mediated disorder.

**Design/Methods:** Patients (<18yrs) presenting to Great Ormond Street Hospital between April 4, 2020, and September 1, 2020, fulfilling PIMS-TS criteria, were included. Clinical and paraclinical features were retrieved retrospectively from electronic patient records.

**Results:** Data was available for 46 patients who presented during the study period. Median age was 10.2 years (IQR 8.8, 13.3), 30 (65.2%) were male and 37 (80.4%) were of non-white ethnicities. New-onset neurological symptoms were reported in 24/46 (52.2%); headaches (n=24), encephalopathy (n=14), dysarthria/dysphonia (n=6), hallucinations (n=6), ataxia (n=4), peripheral nerve involvement (n=3), and seizures (n=1). One patient had 118 leukocytes in CSF. Splenium signal changes were seen in all 4/16 patients on brain MRI. An excess of slow activity was found in 14/15 who had an EEG and myopathic and neuropathic changes were seen 4/7 who underwent nerve conduction studies and electromyography (EMG). Children with neurological involvement had higher peak inflammatory markers and were more likely to be ventilated and require inotropic support in PICU (p<0.05).

**Conclusions:** Children with PIMS-TS presented with new neurological symptoms involving both the central and peripheral nervous systems, in the absence of respiratory symptoms. Neurological symptoms were seen more frequently in more severe presentations.