AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

2021 ANNUAL CONFERENCE **ORIGINAL RESEARCH** (BASIC SCIENCE or CLINICAL)
ABSTRACT SUBMISSION FORM

Presenting Author: Medha Goyal____ Title (MD, DO, NP, other): __MD_____

Institution: Seth G.S Medical College and King Edward Memorial Hospital, Mumbai, India._____

Street Address: Department of Neonatology, 10th Floor , MSB, KEM Hospital, Parel, Mumbai -40012, Maharashtra, India_____

Telephone:
+91 9911961790_____

E-Mail: medha_kv@yahoo.com_____

Trainee? **Yes** ☐ No ☐

If yes, type and year of training _____

FOR PUBLICATION OF THE CONFERENCE PROCEEDINGS, I HEREBY GIVE PERMISSION TO REPRODUCE MY PRESENTATION, WITHOUT FURTHER CONSENT.

Signature: _____Medha Goyal_____ Date: ___19th February,2021_____

Please paste abstract to the second page of this document, using the template provided. **Please do not exceed one page using font size of at least 10.**

This completed form and your basic science or clinical research abstract should be returned via e-mail attachment to: aklodha@ucalgary.ca attention to Abhay K. Lodha, MD

DEADLINE FOR RECEIPT OF ABSTRACT IS FEBRUARY 19, 2021. Submissions will be accepted for either poster or oral presentation. Authors will be notified of acceptance and format for presentation (poster or poster symposium) by **March 12, 2021.**

Title: A single-center observational study on clinical features and outcomes of 21 SARS-CoV- 2-infected neonates from India

Authors: Ruchi Nanavati, Dwayne Mascarenhas, **Medha Goyal**, Anitha Haribalakrishna, Gita Nataraj

Institution: Seth GS Medical College and King Edward Memorial Hospital, Mumbai, India

Background: Coronavirus disease-19 (COVID-19) caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is an ongoing pandemic with significant morbidity and mortality. Neonates represent a vulnerable population, in which we have limited knowledge of its natural history, optimal management, and outcomes. Further, in low-middle-income settings with under resourced health systems there exists an economic and cultural diversity which impacts neonatal care.

Methods: This was a retrospective, single-center observational study conducted in a level III b neonatal intensive care unit (NICU) in one of the major public hospitals in Maharashtra, which serves as a referral center and caters to a large population especially belonging to underprivileged sections. All neonates with suspected SARS-CoV-2 infection admitted to the NICU from 15 April to 31 July 2020 were enrolled. The data was obtained from the neonatal case sheets of hospital records and entered in predesigned pro forma. Data related to maternal demographic characteristics, medical/obstetric complications, antenatal ultrasound, and presence of fetal distress was collected. Maternal COVID-19 status (suspect/confirmed) based on RT-PCR results of throat swabs was documented. Neonatal demographic characteristics such as birth weight, sex, gestational age, mode of delivery, and resuscitation details with Apgar scores were recorded. Key practices such as rooming-in, breastfeeding, and the presence of various symptoms in neonates were noted. The result of the nasopharyngeal swab and laboratory investigations such as complete blood counts, C-reactive protein, liver transaminases, lactate dehydrogenase, creatine kinase, and creatine kinase- myocardial band levels, including chest X-ray, was recorded.

Results: We report an incidence of 10.6% of SARS-CoV-2 infection (21 neonates), among a group of 198 neonates with suspected infection. Most of the SARS-CoV-2-infected neonates were term (80.9%) and none required any resuscitation. The infection was detected by a positive nasopharyngeal swab reverse transcriptase-polymerase chain reaction (RT-PCR) for SARS-CoV-2. Neonatal COVID-19 manifestations developed in one-third (33.3%) of the infected neonates. Most of them demonstrated the involvement of respiratory (33.3%) and gastrointestinal systems (4.8%). Laboratory parameters suggested multi-systemic involvement, with elevated creatine kinase (CK) (76.2%), creatine kinase-myocardial band (CK-MB) (76.2%), and lactate dehydrogenase (LDH) (71.4%) levels. Supportive treatment was given to infected neonates with intensive care required in six neonates (28.6%). This included four preterm and two term neonates, of which two received non-invasive and one received invasive ventilation with intra-tracheal surfactant instillation. IgM antibodies against COVID-19 were detected in one neonate. All neonates with COVID-19 improved and were successfully discharged.

Conclusion: SARS-CoV-2 in neonates has a wide clinical spectrum. In resource-limited settings, it is mandatory to ensure the allocation of resources to care for these infected neonates within the existing infrastructure to address diagnostic and management constraints. Further studies which are well powered are needed to address challenges with rooming-in, breastfeeding, repeat testing of these neonates, and analyze the impact of SARS-CoV-2 infection on the long-term follow-up.