

Neonatal COVID-19 with Rare Presentation in COVID Dedicated Hospital of Bangladesh: A Case Report

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[Received on: 22 November 2020; Accepted on: 12 December 2020; Published: 1 January 2021]

Abstract

Although Coronavirus disease (COVID-19) can affect all age groups, severity of clinical presentation among children and newborns are milder than in adults. Along with classical symptoms, atypical presentation could be noted in the neonate. We report here a case of neonatal COVID-19 where a newborn infant presented with fever, lethargy, respiratory distress and recurrent seizure. Early detection and prompt management is the prerequisite for limiting transmission and reducing neonatal death rate. [*Journal of National Institute of Neurosciences Bangladesh, January 2021;7(1): 87-89*]

Keywords: : Neonate; Covid19; seizure; phenobarbitone

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Conflict of interest: All authors had declared that there was no financial conflict of interest of this research work.

Funding agency: Any of the author did not receive any external funding for this study.

Contribution to authors: Anne RT, Islam MZ, Noman F were involved in the concept, design and data collection. Anne RT had prepared the manuscript. Hasnat F, Shova SS, Ara A have involved in the management of the patient & proof editing the manuscript.

How to cite this article: Anne RT, Islam MZ, Noman F, Hasnat F, Shova SS, Ara A. Neonatal COVID-19 with Rare Presentation in COVID Dedicated Hospital of Bangladesh: A Case Report. *J Natl Inst Neurosci Bangladesh*, 2021;7(1): 87-89

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Introduction

A highly contagious global pandemic, the novel coronavirus disease (COVID19) was first reported in Wuhan, China in December 2019¹. Since the first case of COVID-19 was detected in Bangladesh on 8 March 2020, there has been a rapid rise in the number of cases². About 8,26,922 Bangladeshi population have been infected, and 13,118 people died of this pandemic, as of 13 June, 2021³. Among the confirmed cases 3.3% were below 10 years of age⁴. Any age group can be affected, however the disease is usually milder in children than in adults, and the presentation in neonate can range from asymptomatic infection to severe respiratory distress⁵. While symptoms of COVID-19 are primarily pulmonary, it can affect multiple organ systems including the brain, with neurological involvement affecting up to ~36% of

patients and there is possibility that SARS-CoV-2 could invade the brain, meninges, spinal cord and peripheral nerves⁶. There is scarcity of neonatal case reports, giving rise to many unanswered questions regarding COVID-19 infection in this group of population⁷. The aim of this case note is to aware health care personals particularly pediatricians and neonatologists regarding likelihood of the disease in newborn presenting with neurological manifestations and their management.

Case Presentation

The 05 days old, term neonate was admitted to the Kurmitola General Hospital with H/O fever, lethargy, respiratory distress, and recurrent seizure. Mother had no history of fever with rash, DM, HTN, and any other chronic illness. Routine lower uterine caesarian section

was done due to Placenta Previa and she delivered a baby girl, weighing 3000 grams. Baby breathed spontaneously and no resuscitation was required. The baby was given breast milk within half an hour of birth and was with her mother. Mother developed fever on the second day of delivery. Newborn's father also developed fever, cough, and sore throat and was isolated. The newborn developed fever, lethargy and respiratory distress on the 5th day with recurrent generalized tonic-clonic seizure persisting for 5-10 minutes. As her condition deteriorated she was admitted in Kurmitola General hospital. On admission, she was lethargic, febrile, dyspneic, mildly pale, icterus up to chest, euglycemic, ant. fontanel- open, but not bulged. Temperature was 35.5° Celsius, Respiratory rate 70/min, Oxygen saturation was 88% in room air, Heart rate 140/min, BP was 80/50 mm of Hg, capillary refilling time was less than 3 seconds. OFC was 35 cm, anthropometric parameters were within the centile chart. She was conscious, with poor reflex activity. There was crepitation over left lung field. Tone increased in all 4 limbs, no hepato-splenomegaly. Other systemic examinations revealed normal findings. Oxygen was started at a rate of 2L/min and kept nothing per oral and appropriate I/V fluid started. Blood samples were sent for necessary investigations. Inj. Phenobarbitone loading dose was given, followed by a maintenance dose 12 hourly. Inj. Meropenem (40mg/kg/dose 8hourly) and Inj. Vancomycin (10mg/kg/dose 6 hourly) started after sending blood sample, urine and CSF samples for culture sensitivity and colony count. Other supportive and symptomatic treatment ensured. A nasopharyngeal swab was sent for RT-PCR for COVID-19 on the same day (at her 9th day of age). Which became positive. Chest X-ray was done. The test reports were -

WBC-7000/C, mm with Neutrophil 60%, lymphocyte 30% Hb -15.1 gm/dl, Platelet count-2,10,000/Cmm, CRP- 24 mg/L, Blood Group- AB +ve, RBS-8.6 Mmol/L, S. Bilirubin (total) 7.8mg/L (direct 0.8 and indirect 7mg/dl), S. Calcium-8.5mg/dl, S. Electrolytes-Na 138 mmol/L, K-3.8 mmol/L, S. Creatinine -0.4mg/dl, SGPT-30U/L. Dimer- 0.3 mg/L,S.Feritin-700 ng/ml. Chest X-ray showed consolidation on upper left lung zone. Blood and urine C/S shows no growth. CSF study was within normal limit.

As the condition improved, exclusive breastfeeding started and oxygen gradually was withdrawn. Oxygen saturation improved to 95%. Inj. Meropenem continued and Inj. Vancomycin for 14 days. RT -PCR for COVID-19 was negative on 14th day of hospital stay. Before discharge, USG of brain was done to see any complication and the report was normal. She was discharged with the advice of TORCH screening and advice of home care. The newborn was maintaining normal clinical parameters and thriving well at two weeks follow up visit.

Discussion

Global knowledge about this new infectious pandemic is expanding. The virus is less virulent in children, although there have been case reports of older children death due to this infection¹. Usually infants are affected after exposure to an infected contact. There is no clear evidence of vertical transmission though some reports suggested the possibility in neonates. The median incubation period is five days with a range of 2 to 14 days⁷.

Presentation can vary from asymptomatic infection to severe respiratory distress¹¹. History and symptoms include known contacts with infected patient, temperature instability, respiratory symptoms like congestion, tachypnea, grunting, respiratory distress, apnea, lethargy, poor feeding, vomiting, and diarrhea². In this report, a case of neonatal SARSCoV-2 infection is presented on 5th day of life with fever, lethargy, dyspnea which are consistent with several published report. Ligura et al¹⁰ found dyspnea was the most common reported sign in neonatal age (40.0%) with fever (32.0%). However recurrent seizure has been observed in a few published reports so far. In a case report in our country, the baby presented with convulsion⁸. On another report the patient, aged 26 days with history of 2 paroxysmal episodes, the first one was with upward rolling of the eyes and generalized hypertonia lasting several minutes⁹. In



Figure I: Showing left sided consolidation

summary, neurological involvement in children are rare but acquiring⁶. However, studies on coronavirus indicate that these respiratory viruses have neurotropic properties. There have been records of patients with convulsions, febrile seizures, decreased level of consciousness, encephalomyelitis and encephalitis⁹.

The present neonate shows normal total and differential white blood cell count with raised CRP (24mg/L), high ferritin and chest x-ray shows consolidation on upper left lung zone. These findings are consistent with findings of Ligura et al¹⁰ Teruel et al⁹ findings were that the metabolic panel were normal (liver and kidney function and electrolyte levels) with a cranial ultrasound examination that revealed no abnormalities and the blood, urine, CSF and stool cultures were negative. These findings are consistent with current case. Supplemental oxygen along with symptomatic and supportive treatment is the mainstay of treatment for COVID-19 patients. Supplementation of fluid and electrolyte should be appropriate to avoid pulmonary edema and hypoxia¹¹. The neonate was managed in the line of neonatal sepsis and convulsion and was discharged when discharging criteria was fulfilled. Failure of earlier screening for COVID-19 was a limitation in the management of present case.

Conclusion

Probably this is one of the first few reported neonatal cases of COVID-19 infection in Bangladesh with convulsion. Neonatologists and Pediatricians need to be aware of this. Suspicion about probability of COVID-19 in newborns with prompt diagnosis and

initiation of early supportive treatment, close monitoring and follow-up may save the life of a COVID-19 affected newborn with a positive outcome.

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