COVID-19 related Multisystem Inflammatory Syndrome in a Neonate Presenting as Supraventricular Tachycardia. A Case Report

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Background. The increasing trend in COVID-19 associated multisystem inflammatory syndrome in children MIS-C has been reported as severe acute respiratory syndrome coronavirus 2 continues to spread worldwide. Impact of covid 19 on newborns remains uncertain, while low, but the risk of neonatal infection does exist. A study from China reported 3% of neonates had evidence of SARS-CoV-2 infection. Postnatal infection is considered through horizontal transmission, as SARS-CoV-2 testing on placenta, umbilical cord, amniotic fluid, vaginal secretions, and breast milk samples have been negative. Diagnosis of MIS-C is based on 6 criteria: pediatric age, persistence fever, raised inflammatory markers, signs of organ dysfunction, lack of an alternative diagnosis, and temporal relation to COVID-19 infection or exposure.

Method. A CASE REPORT 24 days old neonate presented with fever, Refractoriness to feed and Respiratory distress for 1 day. He was born to a mother G2P1 + 0 with no Co-morbid at 38 weeks gestation with APGAR scores of 8 at 1 minute and 9 at 5 minutes. Clinically he was febrile with heart rate of 270 beats per minute and respiratory rate of 70 breaths per minute. First and 2nd heart sounds were audible along with gallop rhythm. ECG showed rate of 270 & absent p wave suggestive of supraventricular tachycardia. INVESTIGATIONS His pro BNP 152772 pg/ml and tropon I were significantly raised. Echocardiography was consistent with severe biventricular dysfunction and Myocarditis. Fraction of 20%. Creativity reported 4302 aerobic blood cultures from paediatric Oncology unit between 1st January and 31st December 2020. Aerobic bacterial blood cultures were performed in BD BACTEC automated blood culture system. All positive blood cultures were sub cultured onto blood agar and MacConkey agar. Bacterial isolates were identified and antibiotic susceptibility was tested using VITEK 2 automated system. Patient’s data, bacterial identification and sensitivity results were entered and analyzed using WHONET software. An antibiogram was developed for Gram- negative and Gram- positive organisms using analysed data.

Conclusion. Seventy two blood cultures grew Gram- negative organisms including Klebsiella pneumoniae, Acinetobacter baumannii, Escherichia coli, Pseudomonas aeruginosa and Burkholderia cepacia. Klebsiella pneumoniae was the predominant isolate, 47% (n=34) and only 21.2% of them were sensitive to meropenem. Twenty three blood cultures grew Gram- positive organisms including Staphylococcus aureus, Coagulase negative staphylococci, and Streptococcus pneumoniae. Staphylococcus aureus was the predominant isolate, 78% (n=18) and 55% of them were MRSA (Methicillin Resistant Staphylococcus aureus).

Method. The study was conducted at National Cancer Institute, Sri Lanka.

Conclusion. Oral cryotherapy is effective in preventing oral mucositis in patients undergoing high dose chemotherapy for the autologous stem cell transplantation. However, we need to implement and evaluate in the larger number of patients.