Palivizumab prophylaxis in respiratory syncytial virus epidemia; Neonatal intensive care unit experience

Respiratuar sinsityal virus salgınında Palivizumab profilaksisi; Yenidoğan yoğun bakım ünitesi deneyimi

Fatma Hilal Yılmaz, Nazlı Dilay Gültekin, Hüseyin Altunhan
Yenidoğan Bölümü, Necmettin Erbakan Üniversitesi, Meram Tıp Fakültesi, Konya, Türkiye

To the editor:

Respiratory Syncytial Virus (RSV), which is an RNA virus with negative polarity, single helical and shielded form, belonging to the Paramyxovirus family, is one of the important reasons of Lower Respiratory Tract Infections in children below two years of age and in infants where they are prone to relapse [1]. The diseases progress in an extremely infectious manner, and may stay alive for nearly 1 hour in hands, 6 hours in secretions, 7 hours on hard surfaces; and the transmission mostly occurs via contact and droplets. According to the data received from Disease Control and Protection Centers, RSV is responsible for 2,3% of the newborn deaths [2]. RSV causes seasonal epidemic diseases in the whole world. The epidemics in the Mild Temperate Zone, where our country is also located, generally start as outbreaks in November-April and reach the highest level in January or February. Premature babies, children with Down Syndrome accompanied or not accompanied by neuromuscular diseases and cardiac diseases, patients with congenital or acquired immune defects are especially the candidates for serious infections as a high-level risk group. It has been reported in previously conducted studies that being premature alone is related to serious RSV infection at a significant level. Clinical findings vary according to the age and whether the infection is the first one or a relapsing one. Especially in newborns, they appear with the changes in chemoreceptor sensitivity, apnea and with the mechanism with which the reflex apnea is activated [3].

No vaccinations have been developed yet against this agent, which has high-level mortality and morbidity rates in the risk groups. Palivizumab, which is used in prophylaxis, is a humanized monoclonal antibody. It inhibits the RSV replication in Lower Respiratory Tract by preventing the fusion of RSV into respiratory epithelium cells and avoiding the syncytium formation [4]. The RSV infection diagnosed five (3-7) days after hospitalization is described as “Nosocomial RSV Infection”. When there are additional two or more cases in addition to the first case in a Newborn Intensive Care Unit, the existence of Nosocomial RSV Epidemic is considered.

A 23-day-old female patient was accepted in our unit with the complaints of respiratory problems and cough, and there was a pneumonic infiltration in the right paracardiac area in the front-rear chest radiography. It was determined by listening that the patient, who was tachypneic and dyspneic, had crepitant rales, especially in the right hemithorax. The hemogram, C-reactive protein and procalcitonin values of the patient were within normal ranges. The RSV A and B were found as positive in the viral swab panel of the patient. The patient was isolated and followed-up with supportive treatment, and was discharged with recovery from our unit on the 15th day of her hospitalization. 13 days after this patient was accepted in our unit, another patient who was born at 32 weeks and who was 21 days old showed apnea and respiration problems. The RSV fast antigen test was reported as positive. Three days after this case, a patient who was on the postnatal 122nd day and who was born at 26 weeks and diagnosed with bronchopulmonary dysplasia presented with cough complaints. The RSV fast antigen test was found to be positive. The patients were isolated, and the treatments continued with follow-ups. Upon this situation, which was considered as an RSV Epidemic, Palivizumab (15mg/kg/dose) was applied to 12 patients who were considered to be at risk. No new cases were detected after this application.

References

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Corresponding Author: Fatma Hilal Yılmaz, Yenidoğan BD, Necmettin Erbakan Üniversitesi, Meram Tıp Fakültesi, 42060, Konya, Türkiye. Tel: +90 3322236697 F.: +90 3322236182 E-Mail: f.h.yilmaz@hotmail.com