COVID-19 and Inborn Errors of Metabolism: Single Center Experience

Aslı Durmuş¹, Meryem Karaca¹, Mehmet Cihan Balci¹, Arzu Selamioğlu¹, Hüseyin Kutay Korbeyli¹, Gülden Gökçay¹
1. Istanbul Faculty of Medicine, Division of Nutrition and Metabolism, Istanbul University, Turkey

Introduction:

COVID-19, a novel coronavirus with an outbreak of viral pneumonia in Wuhan, China, and then pandemic is a disease that can have multiple system involvement and negative outcomes are experienced more frequently in patients with underlying comorbidities. Inborn errors of metabolism (IEM) carry an additional risk of developing an attack during the infectious diseases by the affection of immune and respiratory system.

Material-Method:

Forty five patients who were followed up in our clinic and had COVID-19 infection were included in the study. History of contact with a person with COVID-19 PCR positivity and symptom association or COVID-19 PCR positivity was defined as COVID-19 infection.

Patients' symptoms, hospital admission, hospitalization, COVID-19 specific drug intake, respiratory support requirement, complications were questioned by phone or at the time of their outpatient visit.

Results:

Thirty (66.7%) patients diagnosed with IEM who had Covid-19 infection were intoxication type (PKU (11), MSUD (3), LPI (2); 10 (10%) had energy metabolism disorder (FAOD(1) GSD (6)), 3 (6.7%) complex molecule diseases (MPS (1), CTX (1), MLD(1)), 1 (2.2%) neurotransmitter disorder (PTPS deficiency (1)) group (Figure 1). Hospitalization ratio was 5/45 (17.8%). One patient diagnosed with arginase deficiency was admitted to intensive care unit due to hyperammonemia, developed neurologic sequela and died after prolonged hospitalization period. Mean age of individuals was 18.44 (0.46-46) years.

Complications were recorded as need of intensive care unit (2), chronic diarrhea (1), neurologic sequelae (1) and respiratory failure with tracheostomy need.

Hospitalized patients’ diagnosis were propionic acidemia (2), methylmalonic acidemia (1), urea cycle disorders (1), glycogen storage disease (1). Eight patients took COVID specific therapy.
Twelve patients were asymptomatic. While the most common symptoms were recorded as fever, cough, weakness, anorexia, myalgia, vomiting, sore throat, headache; other symptoms were diarrhea, loss of smell and loss or change of taste. Symptoms given in the Table 1.

**Conclusion:**
Patients in the group of intoxication type and energy metabolism disorders are more susceptible for metabolic decompensation and need of hospitalization. IEM patients need close monitoring especially during catabolic states because of carrying risk of morbidity and mortality.