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Asymptomatic case of Covid-19 in an infant with cystic fibrosis



Dear Editor,

Since February 2020, pandemic coronavirus disease 2019 (Covid-19) rapidly spread throughout Italy and caused varying degrees of illness, which is particularly severe in vulnerable subsets of patients. To date, only one adult case with mild symptoms of Covid-19 has been reported in Italian patients affected by Cystic Fibrosis (CF). No data are available in regard to incidence and outcomes within the pediatric CF population. Here we briefly report our first case of Covid-19 in an infant with CF.

ML is a 1 month old male with positive newborn screening (NBS) for CF with immunoreactive trypsinogen value of 108,6 ng/ml. His-family history was significant for a first degree cousin affected by CF on paternal side. Genetic analysis for mutations of the CFTR gene was performed on the Guthrie sample as per the regional NBS protocol and highlighted the CF causing mutations 1717 + 1G > A / N1303K. He is followed by our center, supplemented with saline solution, pancreatic enzymes, and fat-soluble vitamins; his last nasopharyngeal aspirate of February 2020 resulted negative for bacteria and fungi.

Due to the close contact with the grandfather who was later hospitalized for Covid-19, he was found positive for an asymptomatic infection for the virus diagnosed by real time PCR on nasopharyngeal swab.

We recommended isolation of the patient and his family. No further symptoms emerged from our subsequent telephone surveys. As of date, the patient never developed fever or any signs of infection.

Covid-19 ranges from an asymptomatic infection to severe respiratory distress. Its clinical course is significantly milder in children than adults [1]. Older age and multiple comorbidities have been reported to be associated with worse prognosis in the pediatric population [2]. Indeed, respiratory distress has been described only in two children with underlying conditions (one patient had severe malnutrition and survived surgery for congenital heart disease, while the other had bilateral hydronephrosis and left-kidney calculi) [1].

Based on available evidence, it remains unknown why the children have such a low incidence and benign clinical course across the world. Field authorities hypothesize that this may be due to the high plasticity of their immune system, low expression of ACE2 receptors, or to the exposure of other coronaviruses which are generally common in kids [3,4]. The Italian Cystic Fibrosis Research Foundation contacted all affiliated centers to obtain data on co-infection incidence in the CF population. They identified one adult

and one child affected by Covid-19. While the adult presented mild symptoms, the toddler did not present any signs of the infection.

This is the first report of Covid-19 in a child with CF. The patient presented with an asymptomatic infection, despite his underlying condition. Our experience is in accordance with the low incidence and good outcomes of SARS Cov 2 infection in children. However, collaborative studies will be required for complete understanding of SARS- Cov2 impact on patients with CF.

Declaration of Competing Interest

The authors declare that there are no conflict of interests.

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