IN THIS ISSUE

How an inherited metabolic disease center in Italy is overcoming challenges posed by COVID-19

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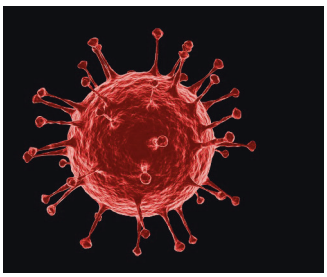

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Following an outbreak in China, a novel coronavirus, SARS-CoV-2, quickly spread around the globe. The deadly virus has infected millions, leading countries to redirect health-care resources and establish social distancing protocols. As a result, clinical centers that specialize in the diagnosis and management of chronic disorders are faced with new challenges regarding how to maintain effective patient care amid a pandemic. Italy has been particularly hard hit by the pandemic. In this issue, Brunetti-Pierri and colleagues describe how the Unit of Metabolic Diseases at the Federico II University Hospital in Naples, Italy, managed during the first month of a government-mandated lockdown. The unit follows about 400 patients with a wide range of inherited metabolic diseases (IMDs). When the Italian National Health Service shifted human and financial resources to patients with COVID-19, the unit became the pediatric referral center for children with COVID-19 and specific areas of the building were designated exclusively for these patients. To minimize the impact of these changes on IMD patients, the unit rearranged, reduced, or discontinued standard outpatient clinics, follow-up evaluations, enzyme replacement therapies, and clinical trials. They then shifted most follow-up visits to remote ones via regular emails or phone or video calls. The unit also made use of the National Health Service's Integrated Home Assistance program, which allowed nurses to make home visits to obtain vitals and draw blood samples from patients and administer enzyme replacement therapies. In addition, they ensured that a minimum number of non-COVID hospital beds remained available in case IMD patients required hospital admission. New recruitments for ongoing clinical trials were put on hold, and ongoing gene therapy trials replaced scheduled visits with visits to local IMD physicians and shipping of relevant samples. The authors share this experience as a single center caring for chronic and fragile patients and advise international networks to gather information to establish mortality and morbidity risk for IMD patients with concomitant COVID-19. —*V. L. Dengler, News Editor*

Identifying genomic factors emerging from COVID-19 research

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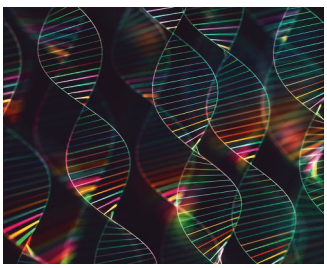

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Amid the COVID-19 pandemic, scientists have emphasized the need to identify host genomic factors that increase susceptibility or resistance to complications of the disease in order to improve patient care. Murray and colleagues outline three types of genomic factors that might be found in emerging COVID-19 research. The team first highlights how defining COVID-related phenotypes is necessary to uncovering genotype–phenotype correlations. They suggest that the World Health Organization's proposed Ordinal Scale for Clinical Improvement could be used as a phenotyping rubric and may allow grouping of COVID-19 patients based on their need for hospitalization, oxygen supplementation, progression to respiratory failure, or mortality—phenotypes that are easily obtained from electronic health records. The researchers acknowledge that in this first phase of the pandemic, when the absence of widespread, accurate testing and lack of knowledge of community-level exposure has limited researchers' ability to define phenotypes of interest, it will be difficult to appropriately score uninfected, asymptomatic, and mildly affected patients. The authors hope, however, that as serologic testing becomes more robust, phenotyping will also become more standard. Second, the team points out how insights drawn from the microbial life cycle, clinical observations, and the literature on host genetics in infection will reveal variants, genes, and pathways that underlie COVID-19 susceptibility and clinical outcomes. Finally, the researchers call attention to genome-scale approaches for discovery and risk prediction, specifically calling out support for global, collaborative efforts undertaking large-scale genome-wide host genomic studies. Results from these investigations may facilitate patient care via risk stratification and targeted prevention and treatment options, although the researchers recognize that there is often a delay of several years before genomic studies directly benefit patients. Finally, the team stresses the importance of producing high-quality, reproducible findings and of remaining aware of ethical, legal, or social issues that may arise among different groups in society from the impact of the pandemic. —*V. L. Dengler, News Editor*

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