Dear KD Families and Friends,

First and foremost, the team at the KDRC hopes that this newsletter reaches you and your loved ones in good health and that your family has weathered the pandemic and can now return to a more normal life.

We also hope that **YOU AND YOUR LOVED ONES HAVE BEEN VACCINATED!**

- All children who had KD should be vaccinated
- This recommendation includes children with important heart damage from KD.

**KD Cases in 2021-2022**

Cases of Multisystem Inflammatory syndrome in children (MIS-C, blue dots) have virtually disappeared and KD (red dots) is back!
**What the pandemic taught us about KD…….**

We learned that the pandemic-associated behaviors of masking, social distancing, and good handwashing combined with school closure and reduced air pollution resulted in a reduction in KD cases in San Diego by almost half compared to historical averages. This trend was seen across the U.S. and in many other countries as well. Children ages 2 and older had the most significant drop in cases whereas the numbers for infants (not masked, staying at home) were unchanged. So.....the agents that trigger KD enter through the mouth and upper airway!

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**KD Cases from across the U.S. and San Diego 2018-2020**

**U.S. data**
- 2018: 894 cases
- 2019: 905 cases
- 2020: 646 cases
- ~28% reduction in cases

**San Diego data**
- 2002-2019 average cases/yr: 75.8 cases
- 2020: 43 cases (544%)
- 2021: 36 cases (53%)

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While KD dropped by 50% in San Diego, the respiratory viruses went to ZERO! In the graph to the left, the green and blue lines show different common viruses while the dashed red line shows the novel coronavirus, SARS-CoV-2. KD (black line) persisted although with reduced numbers of patients. This work was published in 2022 and garnered a great deal of national attention.

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**Original Investigation | Pediatrics**

Epidemiological and Clinical Features of Kawasaki Disease During the COVID-19 Pandemic in the United States

Jennifer A. Burney, PhD; Samantha C. Roberts, MPH; Laurel L. DeHaan, PhD; Chisato Shimizu, MD; Emelia V. Baino, BS; Jane W. Newburger, MD; Samuel Dominguez, MD, PhD; Preeti Jaggi, MD; Jacqueline R. Szmuszkovicz, MD; Anne H. Rowley, MD; Nichole Samuy, MD; Paul Scalici, MD; Adriana H. Tremoulet, MD; Daniel R. Cayan, PhD; Jane C. Burns, MD; and the KIDCARE Study Investigators
Dr. Tremoulet led a group of experts in writing a manuscript that was published through the American Heart Association about transition of care of patients with aneurysms due to KD from a pediatric to an adult health care setting. If this transition is not done well, there is the risk that patients will be lost to follow up, increasing the risk for poor outcomes in these patients. This statement reviewed the current guidelines for long-term care of KD patients with aneurysms and offered guidance on how to best prepare the patient, their families and their adult provider for a successful transition. Formal transition of care programs for patients with KD who develop aneurysms should be established to ensure a smooth transition with uninterrupted medical care as these youths become adults.

If your child developed aneurysms from KD, ask your cardiologist about the Transition of Care plan for your child!

**AHA SCIENTIFIC STATEMENT**

Falling Through the Cracks: The Current Gap in the Health Care Transition of Patients With Kawasaki Disease

A Scientific Statement From the American Heart Association

Nagib Dahdah, MD, MBA; Samuel C. Kung, MD, MAS; Kevin G. Friedman, MD; Ariane Marelli, MD, MPH, FAHA; John B. Gordon, MD; Ermias D. Belay, MD; Annette L. Baker, RN, MSN, CPNP, FAHA; Dhruv S. Kazi, MD, MSc, MS, FAHA; Patience H. White, MD, MA; Adriana H. Tremoulet, MD, MAS, FAHA; on behalf of the American Heart Association Rheumatic Fever, Endocarditis, Kawasaki Disease Committee of the Council on Lifelong Congenital Heart Disease and Heart Health in the Young, and the Council on Arteriosclerosis, Thrombosis and Vascular Biology
KIDMATCH: At last, a diagnostic aid for KD !!!

A machine-learning algorithm for diagnosis of multisystem inflammatory syndrome in children and Kawasaki disease in the USA: a retrospective model development and validation study


The Artificial Intelligence Team at UCSD created KIDMATCH, a computer-based tool that uses simple laboratory data and the 5 clinical features of KD to differentiate KD from MIS-C and from children with other causes of fever. The tool is being commercialized so it can be available in clinics and hospitals throughout the U.S. The study was published in Lancet Child Health in 2022.

Jonathan Lam, a Bioinformatics PhD student and member of the AI team that created KIDMATCH, won the EPIC/Informatics poster award at the 11th annual Pediatric Research Symposium (2022).
KIDCARE Trial

We have results from the KIDCARE trial! The study showed that infliximab (10 mg/kg) treatment for children with recurrent fever after the initial IVIG was safer and more effective in reducing inflammation, shortening hospital stay, and reducing the need for additional treatments compared to a second dose of IVIG.

Infliximab versus second intravenous immunoglobulin for treatment of resistant Kawasaki disease in the USA (KIDCARE): a randomised, multicentre comparative effectiveness trial

Jane C Burns, Samantha C Roberts, Adriana H Tremoulet, Feng He, Beth F Printz, Negar Ashouri, Supriya S Jain, David E Michalik, Kavita Sharma, Dongnan T Truong, James B Wood, Katherine K Kim, Sonia Jain, on behalf of the KIDCARE Multicenter Study Group

Introducing our new KD Team members:

Kirsten B. Dummer, MD is a pediatric cardiologist at Rady Children's Hospital-San Diego and an associate clinical professor of pediatrics at UCSD School of Medicine. She attended Northwestern University, earned her medical degree from the University of Arizona College of Medicine and completed her pediatric residency at Denver Children's Hospital. Her fellowship training included pediatric cardiology and advanced training in non-invasive imaging and adult congenital heart disease at Boston Children's Hospital. She joined the Children's Heart Clinic at Children’s Minnesota in 2006, where she became medical director of cardiology and led the fetal cardiology program at the Midwest Fetal Care Center. In September 2018, she joined Rady Children's Specialists of San Diego. Dr. Dummer has now joined the KD Team at Rady Children's Hospital and participates in the care of all KD patients with coronary artery damage. She has a special interest in the new direct oral anticoagulants for KD patients with giant aneurysms. Dr. Dummer is also participating in a national study of long-term outcomes for children who suffered from MIS-C and follows those patients in the KD clinic.

Koichi Miyata, MD, is a Pediatric Cardiologist from Tokyo, Japan and a visiting scholar in the Kawasaki Disease Research Center. His research projects involve risk factors/models and therapies related to coronary artery aneurysms.
Hao Wang, MD, MS, is a research volunteer in the Kawasaki Disease research team, and a Postdoctoral Fellow at UCSD. His passion includes applying the multi-omic approach to study the disease pathophysiology and machine learning in clinical outcome prediction.

Sophia Hernandez joined the KD research team in January 2022 as a Lab Assistant and took over as Lab Manager in May 2022. She comes with more than 20 years of experience in both biotech and clinical laboratory. She has experience in Blood Bank, Hematology, Pathology and Histology and is currently pursuing a bachelor’s degree in Biology. Some of her interests include gardening, traveling and hiking with her dog. Most recently she took a cross country road trip in October 2021.

Angie Rodriguez Verdin graduated from the University of California San Diego with a Bachelor's in Psychology with a specialization in Development and a minor in Ethnic Studies. She joined the Kawasaki Disease (KD) Research team in 2022 as the Clinical Research Coordinator Assistant for the Adult Kawasaki Disease longitudinal study. In her free time, she likes to go on runs to the beach, cook gluten free/vegetarian dishes, or spend time with friends and family.

12th Annual KD Symposium was held as a hybrid event:
The symposium was held in October 2022 with nearly 100 participants joining through live-streaming. The recording of the live-stream videos has had almost 400 views since then. A huge thanks to the KD Foundation in Boston for facilitating the live-streaming and supporting the event! Here’s the link to access the video recording of the talks: https://www.youtube.com/watch?v=AAgbPxmAudg
We are so grateful to the wonderful families whose donations have made all the research progress possible. Our challenge going forward is to continue to support the important research at the KDRC. All of our team members at the KDRC rely entirely on grant support and donations to fund the important work that is improving outcomes for KD patients here in San Diego and worldwide.

This holiday season, the KDRC team is raising funds for KD research through Rady Children’s “Light the Way” campaign. Please visit our team page to donate and join the team! http://give.rchsd.org/goto/KDResearch.

We hope you have found this newsletter informative. If there are topics you would like to see covered or questions that you have, please contact us at kdresearch@ucsd.edu and we will include answers to your questions in our next newsletter.

Wishing you quiet moments of reflection and joyous time with your family over the holiday season.

With warmest regards,

The KDRC Team