protective from excess time > 3 months (p=0.03) as was a history of cardiac medication use at the last pediatric appointment (p=0.02). Excess time was not influenced by CHD complexity (moderate vs. severe/complex).

CONCLUSION: The mean delay to first ACHD appointment, beyond the interval recommended by the pediatric cardiologist, was almost 8 months. Having a pacemaker or use of cardiac medication were protective from excess time > 3 months. These findings suggest that greater outpatient resources are required to accommodate the growing number of ACHD survivors.

P047
KAWASAKI DISEASE, MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN AND COVID-19 IN A TERTIARY PEDIATRIC HOSPITAL IN MONTRÉAL, CANADA

A Buffone, R Gutierrez Rojas, F Breault, N Dahdah

Montréal, Québec

BACKGROUND: During the SARS-CoV-2 (COVID-19) pandemic speculation arose on possible association between Kawasaki Disease (KD), Multisystem Inflammatory Syndrome in Children (MIS-C) and COVID-19. This retrospective study describes the demographics and clinical course of children diagnosed with KD or MIS-C during COVID-19 pandemic.

METHODS AND RESULTS: Methods: Retrospective chart reviews on children hospitalized at CHU Sainte Justine in Montréal, Canada, for KD (n=46) or MIS-C (n=73) between 01/2020 and 02/2022. Results: Only 13.4% KD patients tested rt-PCR positive for COVID-19 or were exposed to a positive contact before symptom onset vs. 82.19% MIS-C patients. KD patients were 3.61±3.56 years old vs. MIS-C 8.38±4.17 years ($p < 0.0001$); 52.17% vs. 63.01% male. No KD case required pediatric intensive care unit (PICU) admission vs. 52% MIS-C ($p < 0.0001$) with an average PICU duration of 3.18±2.08 days. Ethnic origins in KD vs. MIS-C respectively included African (6.52% vs.15.07%), Arab (13.04% vs. 27.40%), Asian (2.17% vs. 2.74%), Caribbean (2.17% vs. 5.48%), Hispanic (2.17% vs. 4.11%), Caucasian (56.52% vs. 35.62%), and mixed-ethnicity (17.39% vs. 4.11%); with a 2.2±0.5 average odds ratio for non-Caucasians to develop MIS-C/KD ($p < 0.01$). Most common KD clinical criteria observed with MIS-C were (table) conjunctivitis and skin rash with a Median of 4[1-5] criteria in KD vs. 2[0-5] criteria in MIS-C. Fever duration was 8.20±3.50 days for KD vs. 8.15±3.65 for MIS-C (p=0.94) and hospital duration 5.09±2.32 days in KD vs. 7.66±3.52 in MIS-C ($p < 0.0001$). Coronary dilatations with a Z-score of greater than or equal to 3.0 occurred in 21.74% of KD patients vs. 9.59% of MIS-C patients (p=0.10).

CONCLUSION: Demographics and clinical course of patients with KD and MIS-C during the SARS-CoV-2 pandemic suggest that MIS-C affects less Caucasians and children with mixed origins (vs. KD), to the detriment to those of African, Arab, Caribbean, and Hispanic descent. However, MIS-C patients were older and tested COVID-19 positive or were exposed to a COVID positive contact in a much higher proportion compared to KD. A trend towards less coronary complications associated with MIS-C did not reach statistical significance though.

Table.1 Clinical Criteria in KD and MIS-C patients

	Conjunctivitis	Rash	Cervical Lymphadenopathy	Enanthema	Extremity changes
KD	84.8%	84.8%	41.3%	78.3%	58.7%
MIS-C	61.6%	56.2%	34.2%	39.7%	31.5%
p-value	<0.05	<0.05	0.4437	<0.0001	<0.05

P048
MAPK AND AKT/MTOR INHIBITION IMPROVES CHILDHOOD RASOPATHY-ASSOCIATED CARDIOMYOPATHY

G Andelfinger, M Zenker, G Norrish, M Russell, J Meisner, D Peng, T Prendiville, J Kleinmahon, P Kantor, D Gottlieb Sen, D Human, P Ewert, M Krueger, D Reber, B Donner, C Hart, I Odri-Komazec, S Rupp, A Hahn, A Hanser, M Hofbeck, J Draaisma, F Udink ten Cate, A Mussa, G Ferrero, L Vaujois, M Raboisson, M Delrue, C Marquis, Y Théorêt, J Kaski, B Gelb, C Wolf

Montréal, Québec

BACKGROUND: No causal therapies exist for severe pediatric-onset cardiomyopathy associated with germline mutations in RAS/mitogen-activated protein kinase (MAPK) pathway (RAS-CM). In order to evaluate the benefit of small molecule inhibitors of target of rapamycin (mTORi) or MAPK kinase (MEKi) in RAS-CM patients, we have sought to compile cases of compassionate use of these agents.

METHODS AND RESULTS: Case series collecting pre-defined variables on safety and clinical outcome on 25 children with progressive RAS-CM receiving off-label or compassionate use mTORi or MEKi after exhaustion of standard therapies in 17 European and North-American centers. Over a follow-up period of 296 patient-months (median, 5.5 months; range, 1.5-50), transplant-free survival in critically ill patients < 6 months of age treated with mTORi and/or MEKi was 75% compared to 39% in natural history controls (p=0.031). Freedom from surgical intervention was 52% (11 of 21 patients in whom surgical outflow tract resection was indicated), and improvement in clinical functional status and decrease in NT-proBNP z-score by at least 20% from baseline occurred in 85% and 70.6% of patients, respectively (median [range] change in Ross classification -1.3 [-2 − 0] and in NT-proBNP z-score -1.8 [-3.7 - +0.4], $p< 0.001$, before treatment versus last treatment timepoint). No life-threatening adverse events related to mTORi or MEKi were observed. Skin and mucous membranes were the most common organs affected by side effects, requiring cessation or reduction of therapy in 16% of patients.

CONCLUSION: Selected RASopathy patients may benefit from novel mechanism-informed therapeutics targeting the RAS/

MAPK pathway. Clinical trials are needed to substantiate the findings reported in this case series.

P049
SEX-RELATED DIFFERENCES AND THE INFLUENCE OF PREGNANCY ON CARDIAC OUTCOMES IN ADULTS WITH A SYSTEMIC RIGHT VENTRICLE AND BIVENTRICULAR PHYSIOLOGY

N Mahdi, M Chaix, L Guerma, A Dore, B Mondesert, L Leduc, E Codsi, P Khairy, F Mongeon

Montréal, Québec

BACKGROUND: Transposition of the great arteries (TGA) with a systemic right ventricle (sRV) and biventricular physiology is associated with increased morbidity and mortality. There is a paucity of data regarding sex-related differences in outcomes in the context of a sRV. Moreover, pregnancy has been associated with deterioration of sRV function in short-term post-partum follow-up, but the long-term impact remains largely unknown.
METHODS AND RESULTS: A retrospective cohort study was conducted on 214 adults, age 44.7±12.3 years, with a sRV and biventricular physiology followed for a median of 13 years at an adult congenital heart disease center. No sex-related difference was identified in the prevalence of atrial or ventricular arrhythmias, permanent pacemaker implantation, hospitalization for heart failure, systemic atrio-ventricular valve intervention, heart transplant, or cardiac death. Among the 82 (38.3%) women, age 44.0±12.5 years, 43 (52.4%) had at least one full-term pregnancy. Women had a lower prevalence of moderate to severe sRV dysfunction than men (21% vs 42.6%, p=0.001) despite similar ages. Beta-blockers (p=0.008), furosemide (p=0.012), and mineralocorticoid receptor antagonists (p=0.028) were less frequently prescribed to women than men. Women had fewer implantable cardioverter-defibrillators (ICDs) for primary prevention than men (3.7% vs 13.6%, p=0.016), with no difference in the prevalence of secondary prevention ICDs (1.2% vs 2.3%, p=1). The four women with a prohibitive maternal mortality risk (modified WHO class IV) complied with recommendations to avoid pregnancy. After excluding these 4 women, no differences regarding frequency of adverse cardiac events, age at the time of event, and proportion with moderate or severe sRV dysfunction were observed in women with (N=43) and without (N=35) pregnancies during 14 years of follow-up.
CONCLUSION: Women with TGA and a sRV had a lower prevalence of moderate to severe systemic ventricular dysfunction than men, along with a lower proportion of primary prevention ICDs. Following risk assessment and counselling with contraindication of pregnancy in the highest risk subgroup, pregnancy had no impact on long-term cardiac outcomes. Further mechanistic studies are required to elucidate sex-related differences, including the influence of hormonal factors on sRV function.

P050
SURGICAL OUTCOMES IN INFANTS WITH MAJOR CONGENITAL HEART DISEASE EXPOSED TO MATERNAL DIABETES IN UTERO

C Boehme, D Garros, J Kang, D Cave, L Hornberger

Edmonton, Alberta

BACKGROUND: Previous studies have shown that preterm birth, low birth weight, and maternal gestational weight gain influence surgical outcomes in infants with congenital heart disease (CHD). Rodent models of maternal diabetes (DM) and fetal hypoxia suggest these prenatal exposures are associated with increased risk of myocardial ischemic reperfusion injury (IRI). Whether maternal DM impacts surgical outcomes of infants with CHD, particularly those requiring cardiopulmonary bypass (CPB), and whether this relates to greater IRI, has not been explored.
METHODS AND RESULTS: Infants of mothers with DM (IDMs) undergoing CPB at < 1 year were identified and matched with infants whose mothers did not have DM, for surgical intervention, age at surgery, sex, gestational age at birth, being small for gestational age (SGA), and having genetic syndromes (trisomy 21 and 22q11.2 deletion syndrome). Outcomes included postoperative intensive care unit (ICU) and hospital lengths of stay (LOS) and measures indicative of greater IRI (Table). DM subtypes were combined for the main analyses and then separated into gestational (GDM) and pregestational DM. Surgeries were coded using the Risk Adjustment for Congenital Heart Surgery (RACHS) scale and pooled into Groups 1-3 (A) and 4-6 (B). Eighty IDMs and 149 controls were included, 188 in RACHS A and 41 in RACHS B subgroups. IDM and control groups were statistically indistinguishable in most baseline characteristics except: DM mothers were older (33±6 vs 30±6 years, P< 0.001) and more likely to deliver via Caesarean section (49% vs 34%, P=0.03), and IDMs were born earlier (37±2 vs 38±2 weeks, P< 0.001). Within each RACHS group, there were no significant differences in outcomes between IDMs and controls (Table). IDMs exposed to GDM exhibited trends towards similar or even better outcomes after surgery (IDMs vs controls; Group A ICU LOS: 3±3 vs 4±3 days, P=0.02; Group B highest glucose: 13.4±2.0 vs 16.7±3.0 mmol/L, P=0.01), while IDMs of pregestational DM mothers exhibited signs of worse outcomes in Group A (hospital LOS: 20±29 vs 10±7 days, P=0.046; highest urea: 11.0±4.4 vs 8.4±4.2 mmol/L, P=0.04) with trends towards worse outcomes in Group B (PRISM score: 16±9 vs 10±5, P=0.11; highest glucose: 16.7±1.3 vs 14.3±2.7 mmol/L, P=0.06).
CONCLUSION: Though there were no significant differences in surgical outcomes between all IDMs and controls, exposure to pregestational DM but not GDM may contribute to worse outcomes. More work is needed in a larger, prospective longitudinal cohort with pre-defined variables to verify these trends.