NCISKD 2025, KOCHI
POSTER ABSTRACT SUBMISSIONS

ABSTRACT - 1

SILENT KAWASAKI DISEASE UNMASKED BY CATASTROPHIC CORONARY COMPLICATION: SUCCESSFUL MULTIMODALITY SALVAGE IN A CHILD

Dr. Dipsikha Jana [1], Dr. Debasree Gangopadhyay [2], Dr Smriti Surana [1], Dr. Priyankar Pal [3], Dr Sougata Chakraborty [4],

Affiliation:
1: Pediatric cardiology DrNB trainee, R.N.Tagore International Institute of Cardiac Sciences, Kolkata, West Bengal.
2. HOD and Senior Consultant, Paediatric Cardiology Department, R.N.Tagore International Institute of Cardiac Sciences , Kolkata , West Bengal.
3. Pediatric Rheumatologist ,Professor and HOD, Pediatric Medicine Department , Institute of Child Health, Kolkata, West Bengal.
4. Pediatrician (Specialist Medical Officer), Ghatal Subdivisional Hospital , West Midnapore , West Bengal.

Background:

Kawasaki disease (KD) is the leading cause of acquired heart disease in children worldwide. Although timely diagnosis and treatment with intravenous immunoglobulin markedly reduce the risk of coronary complications, missed or delayed recognition can have catastrophic consequences. Coronary artery aneurysms, especially when giant or complicated by thrombosis, carry a high risk of myocardial infarction, ischemic cardiomyopathy, and sudden cardiac death. The management of such children is challenging, requiring a multimodal strategy that combines thrombolysis, anticoagulation, and advanced revascularization.

Case Presentation:

We report a 4-year 7-month-old male who presented with acute chest pain and repeated vomiting. His electrocardiogram demonstrated non-specific ST-segment changes. Retrospective history revealed that he had a course of 10 days fever with purpuric skin lesions, redness in conjunctiva and oral mucosa. Unfortunately, he was misdiagnosed as an allergic skin condition, resulting in missed treatment until day 24. On admission, echocardiography revealed severe left

ventricular dysfunction and giant coronary aneurysm involving both the coronary system with intraluminal thrombus in left coronary artery. He underwent multiple doses of Alteplase for thrombolysis with concurrent enoxaparin, resulting in thrombus resolution and myocardial recovery.

To better define the coronary anatomy, CT coronary angiography was performed. It revealed a right-dominant system with multiple giant fusiform coronary aneurysms: a 12 mm distal left main aneurysm, a long 31 mm × 12 mm proximal LAD aneurysm, and two RCA aneurysms (proximal: 20 mm × 9 mm, mid: 14 mm × 8 mm). Importantly, no residual thrombus was detected at the time of CT imaging. The child was stabilized on long-term therapy with dual antiplatelet agents, Warfarin.

Future Plan:

Given the persistence of giant aneurysms with high future ischemic risk, he has been planned for elective surgical revascularization with coronary artery bypass grafting (CABG), which remains the most definitive therapy in such advanced cases.

Conclusion:

This case exemplifies the catastrophic consequences of missed KD diagnosis and the dramatic potential of timely thrombolysis combined with anticoagulation in averting myocardial catastrophe. It highlights the necessity of vigilance in recognizing KD early, while also demonstrating that even in late, aggressive multimodality therapy can be lifesaving

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ABSTRACT - 2

Retrospective observational study of Clinical Profile and IVIg Resistance in Children with Kawasaki Disease in a Tertiary Care Center

Dr Rose Mary Tom , Dr Nabeel Faisal V , Dr Renu P Kurup , Dr Remadevi K S , Dr Priya P S , Dr Suresh Kumar EK , Dr Preetha Remesh .
Department of Paediatrics **and Paediatric Cardiology**
Aster MIMS Calicut

Background

Coronary artery aneurysm (CAA) in children, most commonly linked to Kawasaki disease. Despite treatment, aneurysms may still occur, especially in IVIG-resistant or late-diagnosed cases. Clinical presentation is often nonspecific, ranging from persistent fever and inflammation to asymptomatic cases, with risks of thrombosis, stenosis, and myocardial ischemia in severe disease. Echocardiography with coronary z-scores is the standard for diagnosis and follow-up. Management is guided by aneurysm size and progression, typically involving IVIG, aspirin and other drugs . Anti platelet or anticoagulant therapy is added for larger aneurysms, while giant or progressive cases may require long-term surveillance or intervention.

Objectives: To study the clinical spectrum of incomplete KD and to assess the response to IVIg therapy.

Materials and methods: A retrospective observational study of children with KD at a tertiary care hospital from January 2017 to April 2025. Diagnosis and treatment were based on American Heart Association (AHA) guidelines.

Results: Total 75 children were included in study population . 10 were infants (13%). The mean duration of fever at diagnosis was 7 days . Clinical manifestations were oral mucosal changes (70%), conjunctival injection (58.5%), and polymorphous exanthema (44.8%). Less common clinical manifestations were extremity changes (14.8%), cervical lymphadenopathy (33.3%), vomitting (20.3%), and Bacillus Calmette-Guerin (BCG) scar flare-up (6%). Coronary artery abnormalities was detected in 52 cases (70%). 20 had small aneurysm (27%) .4 had medium aneurysm (5.3%). Giant aneurysm seen among 9 (12%). Pericardial effusion seen among 4 (5.3%)and thrombus among 2 (2.6%). Total IVIG resistant patients were 12 (16%). 9 babies were managed with infliximab (75%) and 3 with second dose of IVig (25%). .Repeat Echo showed presence of small aneurysm among 4(5.3%),
medium aneurysm for 1 and persistence of giant aneurysm among 7 (9.3%)
Conclusion: In this tertiary care study from Kerala, the management of Kawasaki disease with IVIG and infliximab showed comparable therapeutic outcomes. However, the incidence of coronary artery aneurysms was higher than expected in the early course, underscoring the importance of vigilant cardiovascular monitoring and timely intervention. These findings

highlight the need to individualize therapy, strengthen follow-up protocols, and consider adjunctive treatment strategies to minimize coronary complications. Larger multicentric studies are warranted to validate these observations and optimize management guidelines for resistant cases

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ABSTRACT – 3

TITLE –

Similarities and Differences between Kawasaki Disease and Coronavirus Disease 2019-related Multisystem Inflammatory Syndrome in Children in Indian Patients

AUTHORS – Utkarsh Singh[1], Suhas Prabhu[2], Deepak Phalgune[3]

[1,2]Department of Paediatrics, P D Hinduja National Hospital and Medical Research Centre, Mumbai, Maharashtra, India
[3]Department of Research, P D Hinduja National Hospital and Medical Research Centre, Mumbai, Maharashtra, Indias

PRESENTING AUTHOR –

Dr Utkarsh Singh (phone - 9029816448/8668700653) (email - utkarsh462@gmail.com)

BACKGROUND –

There is a marked overlap of clinical and laboratory features of multisystem inflammatory syndrome in children (MIS-C) and Kawasaki disease (KD); resulting in a diagnostic dilemma. Studies comparing MIS-C and KD in Indian children are limited. The present study was conducted to describe the similarities and differences between MIS-C and KD which may help in diagnosis.

METHODS –

This prospective observational and retrospective study was conducted between April 2022 and March 2023. A total of 82 children < 18 years of age were included; 41 with MIS-C and 41 diagnosed as KD admitted in the same hospital as controls. The primary objectives were to compare the gastrointestinal manifestations between the two groups, whereas the secondary objectives were to compare the mucocutaneous and cardiac manifestations.

RESULTS –

The mean duration of fever was significantly longer in children with KD compared to those with MIS-C. Gastrointestinal manifestations were notably more prevalent in the MIS-C group, whereas mucocutaneous signs were more frequently observed in the KD group (KDG). Evidence of shock, the use of inotropes, and the need for respiratory support were significantly higher in the MIS-C group than in the KDG. Myocardial dysfunction and pericardial effusion/regurgitation were also more prevalent in the MIS-C group, whereas coronary dilatation/aneurysm was significantly lower compared to the KDG. Mean white blood cell (WBC) count, percentage of lymphocytes, absolute lymphocyte count (ALC), and platelet count were notably higher in the KDG compared to the MIS-C group. Liver function tests (LFTs), renal function tests (RFTs), and inflammatory markers such as C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) were comparable between the two groups.

CONCLUSION –

There were vast similarities between KD and MIS-C, suggesting that they lie along the same clinical spectrum. However, there are several differences between the two disease entities.

ABSTRACT 4

TITLE:

Kawasaki vs. MIS-C: The Overlap Unfolded-Clinical Insights across COVID Era

Alina Ali[1], Aparna Namboodiripad[2], Sanitha Kuriachan[3]

[1]MBBS student, [2]Associate Professor, Department of Paediatrics, [3]Professor, Department of Pharmacology,
Jubilee Mission Medical College and Research Institute, Thrissur.

Presenting Author: Alina Ali, Ph.8126439129, email:alina.ali14feb@gmail.com

BACKGROUND

Kawasaki disease is an acute self limiting vasculitis while MISC is a post infectious, immunologically mediated disorder related to SARS-CoV2. The overlapping clinical features make diagnosis a challenge. Building on earlier observations that gastrointestinal symptoms may

aid in differentiation, this study focus on the comparative evaluation in Kawasaki disease and MIS-C.

OBJECTIVES

To compare KD and MIS-C clinical and laboratory profiles, focusing on GI features and trends across COVID era.

METHODOLOGY

A retrospective analytical study was conducted among 67 children (17 KD, 50 MIS-C) admitted to a tertiary-care hospital. Data were retrieved from the medical records department, including demographic details, clinical presentations, laboratory parameters, treatment modalities and complications. Quantitative variables were expressed as mean ± SD and categorical variables as frequencies and percentages. Comparative analysis was performed using χ^2 or Fisher's exact tests, and quantitative differences using t-tests in SPSS v21.0.

RESULTS

The median age of the cohort was 4.7 years (range 0.17–14); MIS-C occurred significantly in older children (5.75 ± 4.0 years) than KD (1.99 ± 1.49 years, $p < 0.001$). Male predominance was noted in both KD (58.8%) and MIS-C (68%), though not significant ($p = 0.49$). Fever was universal. Classical mucocutaneous features: rash, oral mucosal changes, lymphadenopathy and peripheral extremity involvement, were significantly associated with KD ($p < 0.05$). In contrast, hyponatremia, elevated D-dimer, raised troponin I and normocytic-normochromic anemia were significantly associated with MIS-C ($p < 0.01$).

Anemia was more frequent in MIS-C (mild 22%, moderate 34%) than KD (mild 29.4%, moderate 17.6%) with $p = 0.039$. Thrombocytosis predominated in KD (35.3%), while thrombocytopenia was more common in MIS-C (14%), though not significant ($p = 0.136$). Gastrointestinal symptoms were reported in 58.8% of KD and 58.0% of MIS-C, showing no significant difference ($p > 0.05$).Children with a history of COVID-19 infection or known exposure and reactive SARS-CoV-2 antibody titres were significantly associated with MIS-C ($p < 0.001$). In contrast, such findings were absent or minimal in Kawasaki disease cases.

IVIG and antibiotics (Vancomycin, Amoxicillin-Clavulanate) were significantly more used in

KD, whereas corticosteroid therapy (IV Methylprednisolone, Prednisolone) was associated with MIS-C ($p < 0.01$).
During the COVID-19 era, MIS-C predominated (82.6%), declining to 70.5% post-COVID.

Conclusion

MIS-C occurs in older children with stronger inflammatory and hematologic changes, while KD shows classical mucocutaneous features. Though GI symptoms are common to both, they are not distinguishing. Recognizing their distinct profiles is key to timely diagnosis and management.

ABSTRACT – 5

INFANTILE TAKAYASU ARTERITIS MIMICKING KAWASAKI DISEASE IN A 3-MONTH-OLD.

AUTHORS WITH AFFILIATIONS:

Dr.R.M. Dinesh babu.,Consultant ,Pediatric intensive care Unit,RIO Children Hospital Madurai,Tamilnadu
Dr.Harsha Vardhan,Consultant,Pediatric intensive care Unit,RIOChildren Hospital,Madurai,Tamilnadu
Dr.Senthil Kumar,Consultant Pediatric cardiologist ,RIO Children Hospital,Madurai,Tamilnadu
Dr.Jean Pratheesh,Senior Resident,RIO Children Hospital,Madurai,Tamilnadu

PRESENTING AUTHOR WITH CONTACT DETAILS:

Dr. Jean Pratheesh J
Department of Pediatrics, [RIO Children Hospital], [Madurai,Tamilnadu, India]
Email: [drjeanpratheesh94@gmail.com] | Mobile: +91-[9479447515]

BACKGROUND:

Infantile Takayasu arteritis (TA) is a rare large-vessel vasculitis that may clinically mimic Kawasaki disease (KD), leading to delayed diagnosis and poor outcomes. Differentiating these conditions early is crucial, especially when IVIG resistance or atypical vascular findings occur.

CASE PRESENTATION:

A 3-month-old male infant was referred to us with a 14-day history of high-grade fever, rash,b/l cervical lymphadenopathy. Child was managed initially outside 14 days with multiple antibiotics before referral. On Admission Initial investigations revealed anemia, leukocytosis,

thrombocytosis, and elevated inflammatory markers. Echocardiography evaluation by our cardiologist showed coronary dilation and unusual aortic root dilatation.A provisional diagnosis of atypical KD was made, and IVIG (2 g/kg) was administered. Since there was abnormal aortic root dilatation in ECHO, we did CT angiography on day 2 of admission that revealed infantile takayasu arteritis.

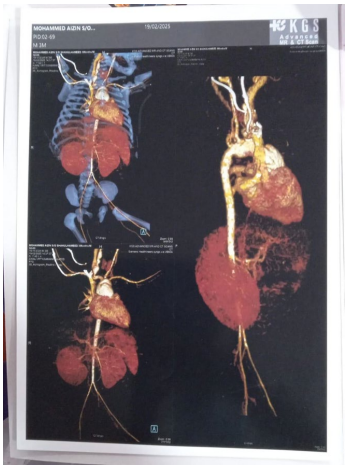
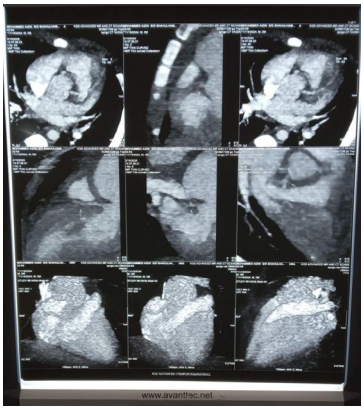
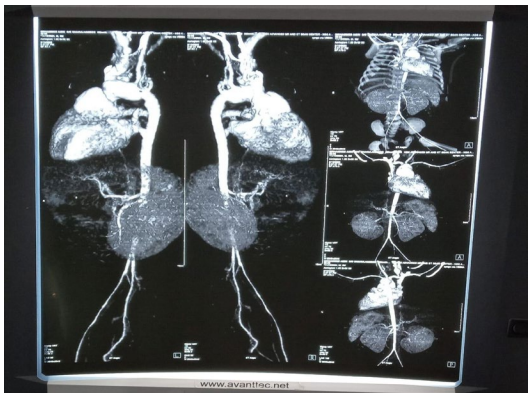
RESULTS:

CT angiography demonstrated large vessel vasculitis and dilatations. Serum ferritin was 1800 ng/mL with elevated D-dimer. A Provisional diagnosis of infantile TA was established by the inputs from pediatric rheumatologist(Dr.Suma balan) and immunosuppressive therapy (steroids and biologics) was advised. Child was referred to Amrita hospital for Further management.After reaching the referral center parents denied treatment and left home. Child succumbed to death few days later.

CONCLUSION:

This case highlights the diagnostic overlap between Kawasaki disease (KD) and infantile Takayasu arteritis (TA), underscoring the importance of early vascular imaging in abnormal aortic root dilatation in ECHO ,IVIG-refractory or atypical KD presentations. Pediatricians should maintain a high index of suspicion for TA in infants with large-vessel involvement and advocate strongly for the child's right to life-saving care, particularly when parental refusal places outcomes at risk.We need a strong legal framework to address such situations.

PICTURES:

ABSTRACT – 6

TITLE

A Retrospective Analysis of Kawasaki Disease: Trends, Clinical and Treatment Profiles, and Short-term Outcomes – A Ten-Year Experience from a Single Tertiary Care Centre.

AUTHORS:
Dr. Meera Sobin (DNB Resident, Pediatrics),
Dr. Serena Mohan Varghese (Senior Consultant, Pediatrics),
Dr. Susan John (Consultant, Clinical Epidemiology),
Dr. Dantis Emmanuel (Senior Consultant, Clinical Immunology and Rheumatology)

PRESENTING AUTHOR:
Dr. Meera Sobin (meerasobin98@gmail.com)

BACKGROUND

Kawasaki Disease (KD) is an acute febrile illness primarily affecting children under 5 years old and has become the leading cause of acquired heart disease in this age group. It is marked by systemic vasculitis, which can result in significant coronary artery complications. Early diagnosis and treatment of KD are vital to reduce cardiovascular morbidity.

METHODS

This retrospective longitudinal study examined the trends, clinical and treatment profiles, and short-term outcomes of 35 children diagnosed with Kawasaki Disease over a ten-year period (2016-2025) at a single tertiary care centre.

RESULTS

Most patients (77.1%) presented between the ages of 1 and 5 years, with a peak incidence in October. The disease was more common in males (59%). The distribution of complete versus incomplete KD was nearly equal. KD was diagnosed within one week of fever onset in more than two-thirds of the patients (71.4%). Common clinical features included skin rash (80%), oral mucosal changes (65%), extremity changes (oedema, peeling, rash;65%), conjunctival injection

(54%), and lymphadenopathy (45%). Coronary vasculitis was observed in 43% of patients, and coronary aneurysms were detected in 11.4%. Although a higher percentage of children (58%) with a fever lasting more than one week developed coronary vasculitis, this finding was not statistically significant. All patients received intravenous immunoglobulin (IVIG) promptly; 11% required a second dose, and steroid pulses were administered to 17% of them. Among the children, 63.6% who received IVIG after 10 days of fever developed coronary vasculitis, though this was also not statistically significant. No cases of acute coronary syndrome were observed.

CONCLUSION

Kawasaki Disease mainly affects young children and presents with various mucocutaneous symptoms. The notable coronary involvement highlights the importance of early treatment. Although the findings were not statistically significant, patients with prolonged fever who received IVIG later in the disease course had a higher likelihood of developing coronary vasculitis. This suggests that prompt IVIG treatment is associated with better outcomes and fewer cardiac complications in Kawasaki Disease.

ABSTRACT – 7

Coronary Artery Aneurysms and Thrombus in Two Pediatric Cases of Kawasaki Disease

Authors: Dr Gayathri Bhuvaneswaran Kartha, Dr Jesu Krupa, Prof Oommen K George
Institutional affiliation: Christian Medical College, Vellore
Address: Dept. of Cardiology, Christian Medical College, Vellore
Presenting author: Dr Gayathri Bhuvaneswaran Kartha,
Email address: gbksignsin@gmail.com
Phone number 8870069729

Background

Kawasaki disease (KD) is an acute vasculitis of unknown etiology primarily affecting children under 5 years, leading to coronary artery aneurysms (CAAs) in up to 25% of untreated cases and 5% of treated ones. Thrombus formation within CAAs is a serious complication, increasing risks of myocardial infarction, stenosis, and sudden death, particularly in giant CAAs (≥8 mm). We report two cases highlighting persistent thrombus despite treatment.

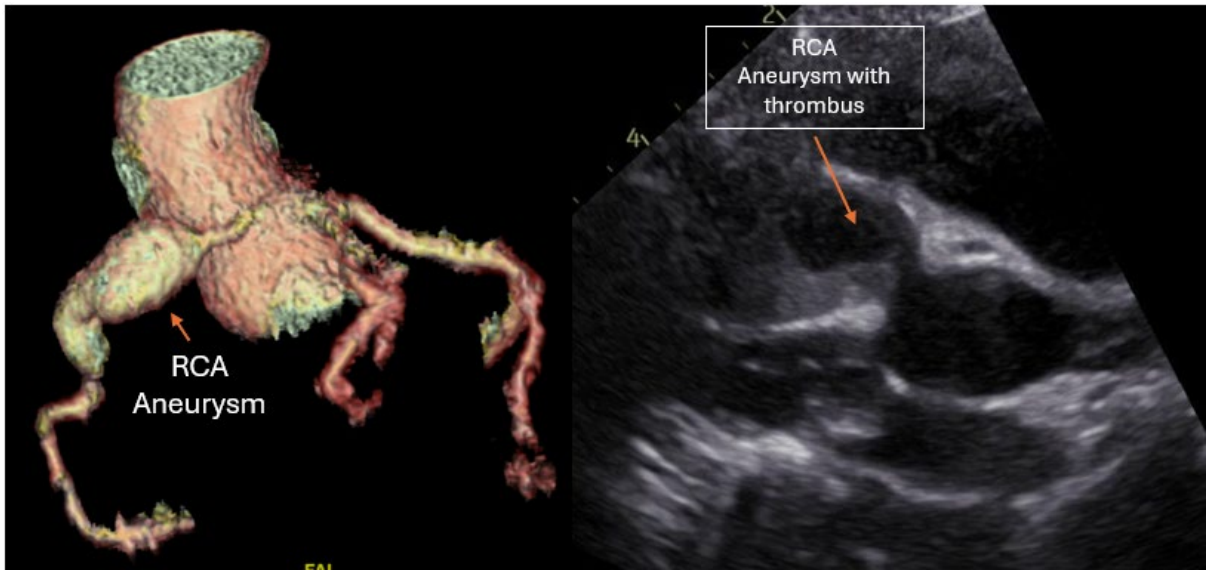
Case Presentation

Case 1: A 3-year-old boy diagnosed with KD in June 2023, presented with 9-day fever, perioral redness, and periungual desquamation. Echocardiography showed CAAs. On day 9 of fever, he received IVIG (2 g/kg) following which fever abated. He was subsequently discharged on warfarin and aspirin which was discontinued by the family after 3 months in view of asymptomatic status. He presented to us 1 year later, and imaging revealed a fusiform proximal right coronary artery (RCA) aneurysm (15×23 mm) with mural thrombus and mild left coronary dilatation.

Case 2: A 20-month-old boy diagnosed with KD in November 2017 based on history of prolonged fever, conjunctival redness,lip ulceration, cervical lymphadenopathy and CAA on ECHO. He was treated with IVIG (2 g/kg) and aspirin (300 mg OD ×3 days) and discharged on warfarin and aspirin. Serial CT angiography showed aneurysmal dilatations in RCA, left main, left anterior descending (LAD), and left circumflex arteries, with persistent partially recanalised thrombus (~1 cm) in proximal LAD, with mild left ventricular dilatation.

Discussion: These cases underscore thrombus persistence in KD with CAAs, a complication seen in upto 59% of giant CAA cases. It usually occurs around 16 days after onset, with risks including male sex, LAD involvement, and diameter ≥8 mm. Management involves antiplatelet therapy (aspirin ± clopidogrel) plus anticoagulation for giant CAAs to prevent infarction. The delay in diagnosis in both cases may be attributable to a lack of awareness regarding KD in peripheral health centres. Challenges in management include delayed presentation, non-adherence to therapy, and lack of guidelines in the setting of thrombus (role and timing of thrombolysis).

Conclusion: KD with CAA demands vigilant long-term monitoring and anticoagulation to avert cardiovascular events. These cases highlight the need for improved awareness regarding KD among peripheral health centres. It may be prudent to consider an early echocardiogram in all infants and children presenting with unremitting fever.



Case 1: CAA with thrombus

ABSTRACT -8

TITLE: VESSELS IN DISGUISE: KAWASAKI DISEASE LIKE PRESENTATION OF INFANTILE TAKAYASU ARTERITIS

AUTHORS:
Dr. Meghana Shridhar, DM Resident. Dept of Rheumatology, Amrita Institute of Medical Sciences, Kochi
Dr. Anand Sasidharan, Consultant Rheumatologist, Aster MIMS Kottackal
Dr. Suma Balan, Professor and HoD, Dept of Rheumatology, Amrita Institute of Medical Sciences, Kochi

PRESENTING AUTHOR:
Dr. Meghana Shridhar
+91-9704208885, E-mail: meghanashridhar1812@gmail.con

BACKGROUND:

Infantile Takayasu arteritis (TAK) is an exceptionally rare large vessel vasculitis that can closely mimic Kawasaki Disease (KD) in early infancy due to overlapping clinical features such as persistent fever, elevated inflammatory markers, and coronary artery abnormalities. Differentiating TAK from KD is crucial, as TAK involves systemic large vessels and requires

targeted immunosuppressive therapy. We describe four infants who were initially diagnosed and treated as KD but were later confirmed to have infantile TAK based on angiographic findings.

METHODS:

This descriptive case series includes four infants aged 3 months to 4 years diagnosed with infantile TAK. All presented with persistent inflammation and coronary artery abnormalities despite standard KD-directed therapy with IVIG and corticosteroids. Each child underwent detailed clinical evaluation, echocardiography, and CT or MR angiography to assess large vessel involvement. Laboratory investigations included inflammatory markers and ADA2 enzyme levels. Treatment modalities included corticosteroids, biologics (infliximab or tocilizumab), and steroid-sparing agents (mycophenolate mofetil).

RESULTS:

Case 1: A 3.5-month-old girl with persistent inflammation (CRP 80 mg/dL, platelets 13.5 lakh) and giant coronary aneurysms (LAD Z 12.75, RCA Z 5.76). CT aortogram showed irregular, beaded subclavian arteries and renal irregularity. Diagnosed as TAK (ITAS 3) and treated with infliximab 5 mg/kg, steroids, MMF, aspirin, LMWH, and metoprolol, leading to regression of aneurysms (LAD Z 4.04).

Case 2: A 9-month-old girl with coronary dilation (LAD +4.5, LMCA +4.21), absent radial pulses, and hypertension. CT angiogram showed bilateral subclavian stenosis and aortic mural thickening. Treated with IV methylprednisolone 10 mg/kg × 3 days, oral prednisolone, MMF, metoprolol, and tocilizumab 8 mg/kg (10 doses), achieving complete radiologic resolution at one year.

Case 3: A 4-year-old girl, first presenting at 6 months with fever, severe anemia, non-specific rash. The initial differential diagnosis included incomplete Kawasaki disease. CT Aortogram showed multiple aneurysms of medium vessels, hence treated as PAN. Later reclassified as TAK on repeat imaging which was done due to discrepancy in blood pressure recording of limbs and persistently high inflammatory markers. Managed with IV methylprednisolone, oral steroids, and MMF with remission and normalization of inflammatory markers.

Case 4: A 3-month-old boy with fever, lip redness, and hand swelling treated as KD (IVIG 2 g/kg). CT angiogram revealed fusiform and saccular aneurysms of ascending aorta, arch, right CCA, and left ICA. Treated with pulsed IV methylprednisolone and infliximab 10 mg/kg.

CONCLUSION:

All four infants initially treated as Kawasaki Disease were ultimately diagnosed with infantile Takayasu arteritis based on angiographic findings. Prompt recognition and aggressive immunosuppressive therapy including biologics (infliximab or tocilizumab) and steroid-sparing agents (MMF) resulted in favorable outcomes and regression of vascular lesions.

ABSTRACT -9

Lipid Metabolism and Immune Dysregulation in LCWE-Induced Kawasaki Disease: A Transcriptomic Perspective

Radhika Dhawan, Prabhavati Devarajalu, Rakesh Kumar Pilania, Jayakanthan K.
Advanced Pediatrics Centre, Postgraduate Institute of Medical Education and Research

Introduction: Kawasaki disease is an acute childhood vasculitis that predominantly affects the coronary arteries, leading to long-term cardiovascular complications. Despite extensive clinical characterization, the molecular mechanisms driving coronary inflammation and the role of lipid metabolism in disease progression remain poorly understood. Lipid metabolic pathways are increasingly recognized as central regulators of immune responses and vascular inflammation, suggesting that dysregulated lipid signaling may contribute to KD pathogenesis.

Methods: To address this, we analyzed publicly available transcriptomic data of heart tissues from LCWE-induced and control mice (GSE141072) downloaded from the GEO database. Expression matrices, generated on the Illumina platform, were used as provided. Differentially expressed genes (DEGs) were identified using limma (FDR < 0.001, fold-change ±2). Functional enrichment, including GO and KEGG analyses, was performed with clusterProfiler, and pathway interactions

were visualized in Cytoscape to assess regulatory networks involved in LCWE-induced cardiac inflammation.

Results: A total of 914 DEGs were identified, including 738 upregulated and 176 downregulated genes, encompassing key lipid- and inflammation-related mediators such as LPL, IL1B, APOC3, PLIN4, VLDLR, VCAM1, and PTGS2. GO enrichment highlighted infection, inflammation, and tissue remodeling, while KEGG analysis revealed perturbations in fatty acid metabolism, PPAR signaling, ABC transporters, and ErbB signaling, emphasizing the integration of lipid metabolic and immune pathways. Network analysis further underscored fatty acid metabolism as a central hub coordinating metabolic and immune responses.

Conclusion: Our re-analysis demonstrates that LCWE-induced cardiac inflammation involves a coordinated dysregulation of lipid metabolic and immune pathways, with fatty acid metabolism playing a pivotal role, highlighting a mechanistic link between metabolic reprogramming and vascular inflammation in Kawasaki disease.

ABSTRACT – 10

Super Refractory Kawasaki Disease with Giant Coronary Aneurysm in a young girl – The role of IL-1 Blockade!

Uma Tejaswi[1], Jayanth B Nair[1], Bharath A P[2], Chetan Ginigeri[3], Harish Kumar[3], Karthik Arigela[3], Syed MD Naushad Ali[3], Sagar Bhattad[1]

Affiliation:
[1]Division of Pediatric Immunology, Rheumatology and Bone Marrow Transplant, Aster CMI Hospital, Bangalore, India.
[2] Department of Pediatric Cardiology, Aster CMI Hospital, Bangalore, India.
[3] Department of Pediatric Intensive Care Services, Aster CMI Hospital, Bangalore, India.

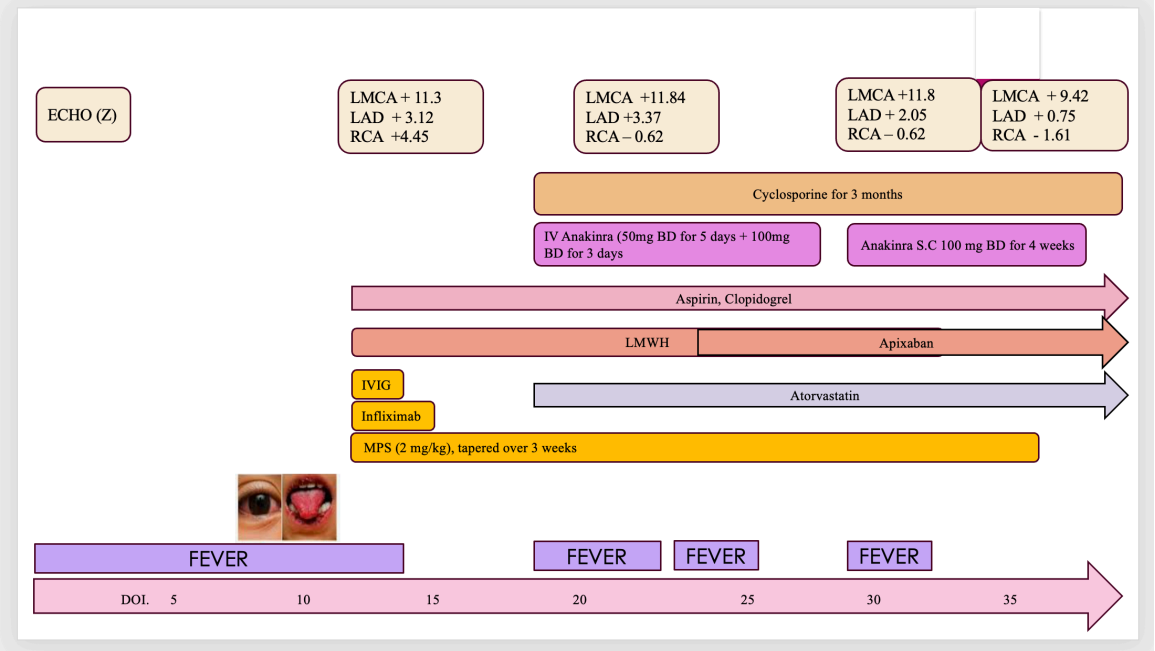
Abstract:

Background: Kawasaki disease (KD) is a medium vessel vasculitis that primarily affects children under 5 years of age. Coronary involvement in KD is not uncommon, however giant coronary artery aneurysm (CAA) is a catastrophic complication that can be fatal and very difficult to manage. While IVIG is effective in most cases, a subset of patients remains refractory to standard therapy.

Case Summary: A 7-year-old girl presented with history of fever for 13 days, erythematous rashes, oral mucositis and bilateral conjunctival injection. Initial work up showed Hb-11gm/dl, TC-6140cells/cumm (N 60, L 30), PC-3L, ESR-04 and CRP-62.6mg/L. Blood culture was sterile. She did not respond to antibiotics and an ECHO was performed with a suspicion of KD that showed giant CAA in LMCA, small aneurysms in LAD and RCA. A diagnosis of KD was established, and she was treated with IV immunoglobulin 2 g/kg, steroids (Methyl pred 2 mg/kg) and Infliximab (10 mg/kg) were administered as primary intensification in view of giant coronary aneurysm. While the mucositis and conjunctival injection improved, high fevers with intermittent rashes persisted for more than 72 hrs. Considering ongoing disease, oral cyclosporine was added with no benefit. IV Anakinra was added on day 19 of illness, to which she responded promptly. On discontinuation of Anakinra (5 days), fever and rashes recurred, prompting re-initiation of therapy. Anakinra was given for a total of 5 weeks duration at a dose of 7 mg/kg/day. Cyclosporine was administered for 3 months. She was also treated with low dose aspirin, clopidogrel, apixaban and atorvastatin. Interval 2D ECHO at 3 month follow up showed improvement in coronary artery dimensions (Fig 1). She is currently, 3 months into the illness and is doing fine.

Conclusion: Despite the potentially life-threatening nature of giant CAA in KD, there are currently no established consensus guidelines regarding the use of alternative therapies in cases resistant to IVIG. While a limited number of case reports have described successful outcomes with use of Anakinra, data remain sparse regarding optimal treatment duration, efficacy, and long term outcomes-particularly in patients with significant coronary artery involvement. We believe that our case contributes to the growing body of evidence supporting the successful use of Anakinra in such cases. Further large-scale studies are needed to establish the role of Anakinra in this setting.

Fig 1.



LMCA- Left Main Coronary Artery, LAD-Left Anterior Descending Artery, RCA-Right Coronary Artery, LMWH-Low Molecular Weight Heparin, IVIG-IV Immunoglobulin, MPS-methylprednisolone, DOI: Day of Illness.

ABSTRACT - 11

Title: Incidence of Kawasaki Disease in Children at Chandigarh, India (2020–2024): Impact of the COVID-19 Pandemic and Post-Pandemic Resurgence

Authors: Ripudaman Singh[1], Rakesh K. Pilania[1], Suprit Basu[1], Yamini Sharma[1], Aarti Goyal[2], Jyoti Dixit[1], Saniya Sharma[1], Manpreet Dhaliwal[1], Pandiarajan Vignesh[1], Deepti Suri[1], Sanjeev Naganur[3], Manphool Singhal[4], Amit Rawat[1], Shankar Prinja[2], Surjit Singh[1]

Affiliations:

[1]Pediatric Allergy and Immunology Unit, Advanced Pediatrics Centre, PGIMER, Chandigarh; [2]Department of Community Medicine and School of Public Health, PGIMER, Chandigarh; [3]Department of Cardiology, Advanced Cardiac Centre, PGIMER, Chandigarh; [4]Department of Radiodiagnosis and Imaging, PGIMER, Chandigarh

Abstract

Introduction:

Kawasaki disease (KD) is the leading cause of acquired heart disease in children worldwide. Previous studies from Chandigarh, India, documented a rising incidence until 2019. The COVID-19 pandemic, with its infection-control measures and emergence of multisystem inflammatory syndrome in children (MIS-C), disrupted established epidemiological trends. We aimed to evaluate the impact of the pandemic on incidence, clinical features, and coronary outcomes in children with KD at Union Territory Chandigarh.

Methods:

This observational study was conducted at the Pediatric Allergy Immunology Unit, Advanced Pediatric Centre, PGIMER, Chandigarh, from January 2020 - December 2024. Demographic, clinical, laboratory, and echocardiographic data were collected. Population estimates were derived from national census projections, and annual incidence rates were calculated for children <5 years and <15 years. Temporal and seasonal trends were analyzed using regression models and Chow tests.

Results:

A total of 60 children with KD (median age 40.5 months; 62% male; 63% complete KD, 37% incomplete KD) were residents of Chandigarh during the study period. Incidence declined markedly during the pandemic (1.7 and 3.4 per 100,000 children <5 years in 2020 and 2021, respectively), followed by a rebound in 2022 (8.4) and 2023 (5.8), and a sharp rise in 2024 (13.9), the highest incidence recorded to date from Chandigarh. Coronary artery abnormalities were detected in 13%, with 3 patients showing persistent lesions at 6 weeks. No deaths occurred, and seasonal patterns remained unchanged compared with 2015–2019.

Conclusion: KD incidence in Chandigarh declined transiently during the COVID-19 pandemic but rebounded sharply post-pandemic, surpassing pre-pandemic levels. Despite fluctuations, clinical features and coronary outcomes remained stable. These findings reinforce KD as an endemic childhood vasculitis in Chandigarh, India and highlight the need for ongoing surveillance and early recognition as a global child health priority.

ABSTRACT - 12

The Many Faces of Kawasaki Disease: Insights from a Cohort Study

Rashmitha Bethi[1], Aparna C[1], Chetan R Mundada[1], Sudeep Verma[1], Parag Dekate[1], Abarna Thangaraj[1*]
Authors with Affiliation: Krishna Institute of Medical science- Cuddles, Hyderabad.
*Corresponding author

Background

Kawasaki Disease (KD) is the most common vasculitis that predominantly affects children under five years of age. Early recognition and timely immunomodulatory therapy are critical to preventing coronary artery aneurysms (CAA) and other cardiovascular complications. This cohort study was undertaken to describe the clinical spectrum, treatment response, and outcomes among children with different presentations of KD in 2025.

Methods

A retrospective analysis patient who was diagnosed as managed as KD between April and September 2025 at KIMS Cuddles Hospital, Hyderabad. Data were extracted from electronic discharge summaries, including demographic details, clinical features, laboratory findings, echocardiographic parameters, treatment given (IVIG, steroids, biologics), and outcomes.

Results

There were total of 8 children. Male to female ratio 3:1, (M=6, F=2), median age at diagnosis was 24 months (Range: 7 months-60 months). Fever and mucocutaneous changes were seen in all patients. Of the 8 patients, 4 complete KD, 4 had incomplete KD. Coronary artery aneurysm (CAA) was noticed in 7 children. Pan coronary artery aneurysm involving all arteries was seen in 1 patient. Myocarditis was noticed in 3 patient, KD shock syndrome in 1 and Hemophagocytic lymphohistiocytosis in 1 patient. IVIg resistance was noticed in 2 patients. All patient received IVIg (2 g/kg) and low-dose aspirin. Infliximab was used in 4 patients, steroids in 6, second dose of IVIg in 1, Anakinra in 1 and cyclosporine in 1 patient. Regression of coronary changes on follow-up was noticed in 5 patients.

Conclusion

This cohort underscores the severe presentation of Kawasaki Disease with varied complications. Early multidisciplinary intervention, including timely escalation from IVIG to steroids or

biologics, resulted in favorable short-term outcomes. Continuous follow-up with serial echocardiography remains essential to detect late complications.

ABSTRACT - 13

Title: When Kawasaki Disease Wears a Surgical Mask: A Diagnostic Challenge in an Infant with Acute Abdomen.

Authors: **Riya Sharma[1],** Dev Desai[1], Debajyoti Chatterjee[2], Muneer Abbas Malik[3], Shivani Dogra[3], Manphool Singhal[4], Rakesh Kumar Pilania[1]

Affiliations:
[1]Pediatric Allergy Immunology Unit, Department of Pediatrics, PGIMER, Chandigarh
[2]Department of Histopathology, PGIMER, Chandigarh
[3]Department of Pediatric Surgery, PGIMER, Chandigarh
[4]Department of Radiodiagnosis and Imaging, PGIMER, Chandigarh

Presenting Author:
Dr. Riya Sharma
Department of Pediatrics, PGI
Email: riya250820@gmail.com
Phone: 8233660395

Background

Kawasaki disease (KD) is an acute, self-limited, medium-vessel vasculitis and the leading cause of acquired heart disease in children. While it classically presents with mucocutaneous and cardiovascular features, rare atypical presentations can mimic an acute surgical abdomen, leading to diagnostic and therapeutic delays.

Methods

We report the case of a 4.5-month-old male infant who underwent exploratory laparotomy for suspected intestinal obstruction, later diagnosed with KD based on clinical, histopathological, and imaging findings. Data were obtained from clinical records, operative findings, histopathology, and echocardiographic/CT coronary angiography results.

Results

The infant presented with a 3-day history of fever, constipation, obstipation, abdominal distension, and bilious vomiting. Imaging revealed multiple air-fluid levels, and laboratory results showed

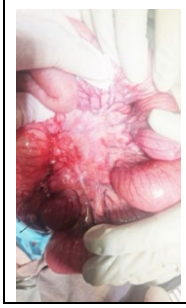
anemia (hemoglobin 81 g/L), thrombocytosis (683×10⁹/L), and sterile cultures. Following failed conservative management, exploratory laparotomy revealed multiple blackish intestinal patches, dilated bowel loops, and a fibrous band tethering the ascending colon to a lymph nodal complex at the ileocecal junction **(Fig. 1A).** A loop ileostomy was performed. Persistent postoperative thrombocytosis (731×10⁹/L) prompted further evaluation. Histopathology of lymph nodes revealed necrotising lymphadenitis, periarteritis with transmural inflammation, smooth muscle loss, and recanalising thrombi—findings consistent with vasculitis **(Fig. 1B).** The treating surgical unit sought a clinical consultation for thrombocytosis. Physical examination revealed chromonychia on fingernails. (**Fig. 1C**).

Echocardiography demonstrated giant coronary artery aneurysms: right coronary artery (4.7 mm, Z +11.2) and left main coronary artery (10 mm, Z +27), with non-visualisation of the LAD and LCx suggesting thrombosis **(Fig. 1D).** CTCA confirmed fusiform aneurysms with non-opacification of the LCx **(Fig. 1E).** Laboratory tests showed elevated transaminases and markedly raised NT-proBNP (2766 pg/mL). Given the high-risk features—infancy, male sex, giant aneurysms, and delayed diagnosis—treatment was intensified using intravenous immunoglobulin (2 g/kg), infliximab (8 mg/kg), cyclosporine (5 mg/kg/day), corticosteroids, aspirin, and low-molecular-weight heparin. Over 12 weeks of follow-up, aneurysm size regressed (RCA 2.76 mm, LMCA 3.08 mm, LAD 3.47 mm), thrombus resolved, and platelet count normalised.

Conclusion

This case underscores the importance of considering KD in infants presenting with an acute abdomen, especially when histopathology reveals vasculitis. Gastrointestinal manifestations may precede typical features, and delayed recognition is associated with giant coronary aneurysms and poorer cardiac outcomes. Early multidisciplinary evaluation is essential to optimise prognosis.

1A



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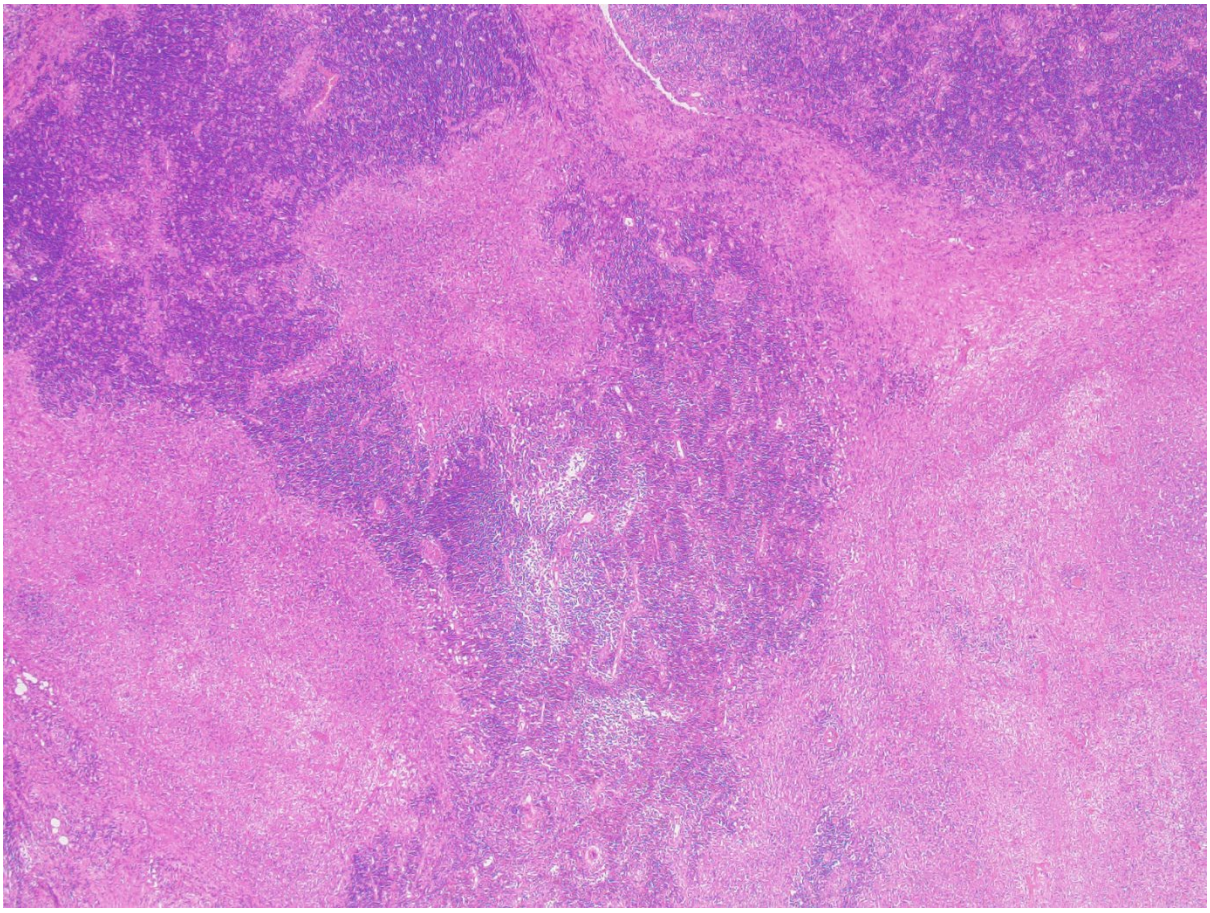

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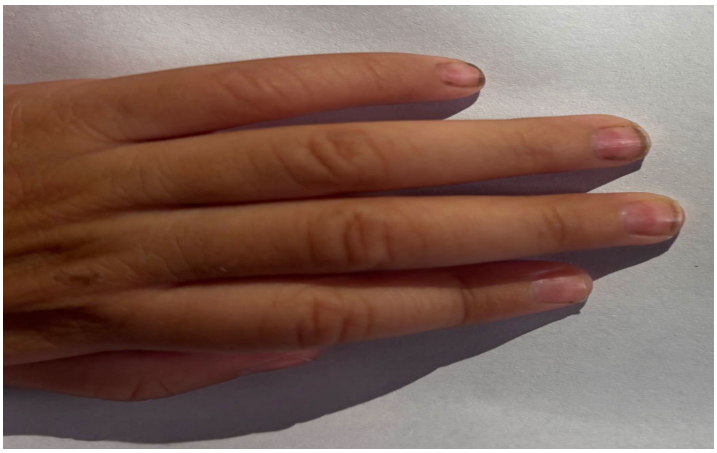

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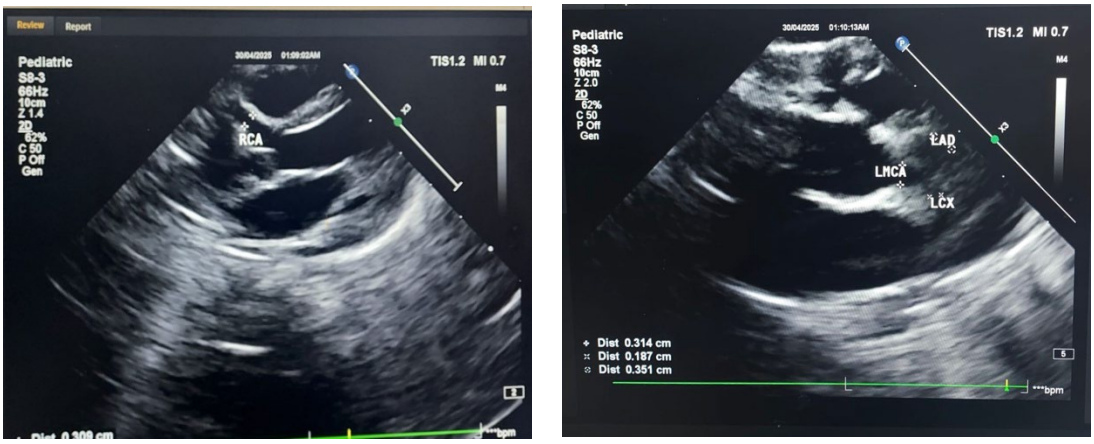

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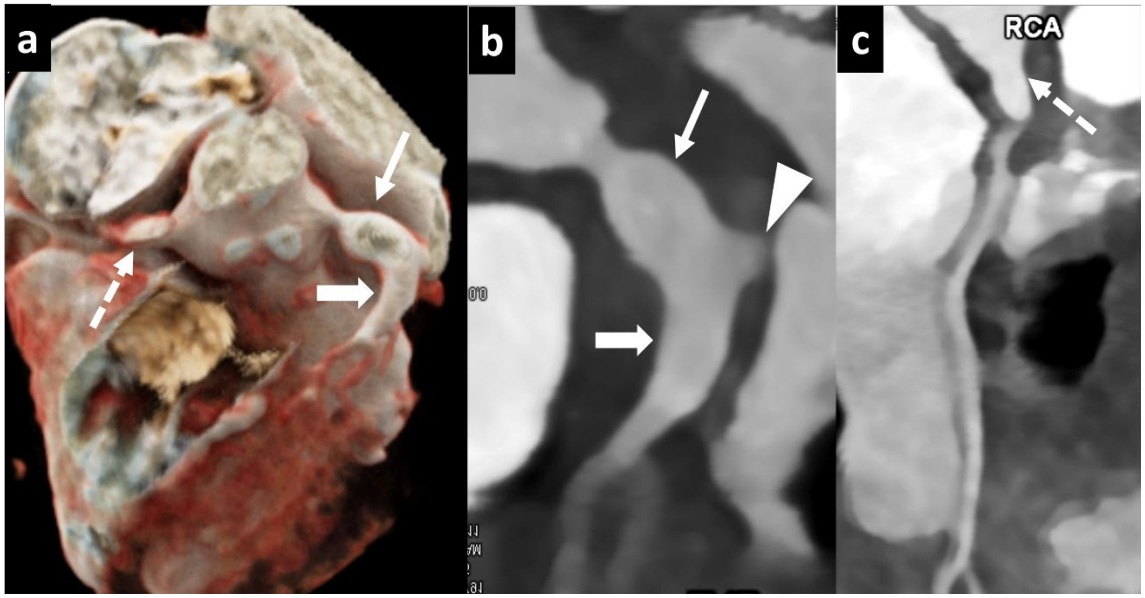

Fig.1 A. Intraoperative pic showing dilated small bowel loops with lymph nodal complex at the ileocaecal junction, causing obstruction; **B.** Arteries show presence of marked periarterial inflammation. There is transmural inflammation extending up to intima with presence of mixed inflammation and nuclear debris, indicating active vasculitis (Hematoxylin and Eosin, x200); **C.** Chromonychia; **D.** 2D echo showing aneurysms in LMCA, LAD and RCA; **E.** Dual Source computed tomography coronary angiography (DS-CTCA) images showing fusiform aneurysms in the RCA and distal LMCA extending into the LAD, LCx, and diagonal branches, with non-opacification of the LCx—indicative of coronary thrombosis

ABSTRACT – 14

"Kawasaki Disease Presenting in a 30-Day-Old Neonate: A Rare Clinical Entity"

Dr Rose Mary Tom , Dr Preetha Remesh Dr Nabeel Faisal V , Dr Renu P Kurup , Dr Remadevi K S , Dr Priya P S ,.
Department of Paediatrics and Paediatric Cardiology
Aster MIMS Calicut

Introduction

Kawasaki Disease (KD) is a self-limiting and acute systemic vasculitis disease of childhood that leads to coronary artery abnormality in untreated cases. Reports of neonatal KD are rare, and due to the lack of typical clinical manifestations, it is easy to be misdiagnosed and causes delayed treatment. We present a case of Kawasaki disease in a neonate of our hospital . The aim is to explore the clinical features , to identify and diagnose it early, treat it as soon as possible, improve its prognosis and provide help for clinical practice.

Case report

A 30-day-old full-term male infant was admitted with fever for one week and one episode of seizure. He had been treated elsewhere as sepsis with multiple antibiotics but remained febrile, leading to referral to our center.

On admission, his temperature was 37.7°C, heart rate 138/min, and respiratory rate 44/min. Examination revealed mild conjunctival congestion and peeling of the hands. Cardiovascular examination detected a grade 2/6 systolic murmur at the apex and left sternal border. There was no hepatomegaly.

Laboratory findings showed leukocytosis (WBC 23.6 × 10^9/L, 64% neutrophils), anemia (Hb 8.2 g/dL), thrombocytosis, and markedly elevated C-reactive protein (CRP 102 mg/L). Blood and CSF cultures were sterile. Cranial and abdominal ultrasonography and chest X-ray were normal. Given the persistent fever, mucocutaneous findings, and elevated inflammatory markers, KD was suspected. Echocardiography revealed significant coronary dilatation—RCA origin 2.75 mm,

distal RCA 4.2 mm; LAD origin 2.28 mm, distal LAD 3.86 mm; LCx mildly dilated—suggesting evolving aneurysms.

The infant was treated with IVIg (2 g/kg) and aspirin. Persistent fever after 48 hours prompted a second IVIg dose. He subsequently improved clinically, and echocardiography showed stabilization of coronary changes. The baby was discharged on aspirin and clopidogrel.

Follow-up

- At 1 year: Mild coronary dilatation persisted (LMCA 4 mm; LAD 2.1–2.7 mm; RCA 3 mm; LCx 1.2 mm).
- At 11 years: Coronary dimensions showed near normalization (LAD 1.8–2.7 mm, RCA 0.6–2.6 mm).
- At 15 years: Echocardiography was normal, and the patient remains asymptomatic. Clopidogrel was discontinued two years earlier.

Discussion

Neonatal KD is rare and often misdiagnosed due to nonspecific early symptoms. Differentiation from sepsis or viral illness is critical, as delay in diagnosis increases the risk of coronary complications. In this case, persistent fever, conjunctival congestion, and thrombocytosis raised suspicion for KD, confirmed by echocardiographic findings.

Prompt administration of IVIg and antiplatelet therapy is the cornerstone of treatment and significantly reduces coronary morbidity. Our case demonstrates that early recognition and management can lead to complete regression of coronary abnormalities, even when the disease presents in the neonatal period.

Conclusion

In conclusion, neonatal Kawasaki disease are easily misdiagnosed as sepsis or immune diseases. Early recognition and prompt treatment of Kawasaki disease, even in the neonatal period, are crucial in preventing serious cardiovascular complications. In this case, timely diagnosis and management at 30 days of life led to complete recovery, with the child remaining asymptomatic and maintaining a normal echocardiogram at 15 years of age. This highlights the importance of clinical vigilance for Kawasaki disease even in very young infants. If Kawasaki disease in early infancy is missed , it loses the best time for treatment, aggravating the body's immune response

and eventually developing into coronary artery damage The incidence of coronary artery lesions is significantly higher if neonatal KD patients miss timely diagnosis and treatment.

ABSTRACT – 15

Atypical Kawasaki Disease in Infancy: When Other Symptoms Conceal Vasculitis

Swetha Karun Thappa, Nabeel Faisal Valappil, Priya P S, Remadevi K S, Renu P Kurup
Aster MIMS Hospital, Calicut
thappa.swetha@gmail.com
9400565503

Background: Kawasaki disease (KD) is an acute, self-limiting vasculitis of childhood that primarily affects medium-sized arteries, with a predilection for the coronary arteries. The diagnosis is often clinical and can be challenging in infants who present with incomplete or atypical features. Delayed or missed recognition increases the risk of coronary artery complications.

Case report:

Two infants with atypical Kawasaki disease, each presenting with prolonged fever but distinct initial presentation.

5 month old female infant presented with fever and cough and was initially treated as respiratory tract infection.

6 month old male infant had prolonged fever and irritability leading to an initial diagnosis of urinary tract infection.

In both cases, fever persisted despite broad-spectrum antibiotics. Laboratory investigations revealed elevated CRP and ESR, thrombocytosis, and sterile cultures. Echocardiography in both cases demonstrated coronary artery involvement with giant aneurysms confirming the diagnosis of incomplete Kawasaki disease.

Standard treatment with intravenous immunoglobulin (IVIG-2 g/kg), methylprednisolone, LMWH and Aspirin was administered. However, persistent fever beyond 36 hours post-IVIG and further progression in coronary artery size indicated IVIG-resistant KD. Both infants received Infliximab (5 mg/kg, single dose) resulting in prompt defervescence and improvement in inflammatory markers. Follow-up echocardiography showed no further progression in the size of the coronaries. Currently both the infants are on dual antiplatelet agents and tapering oral steroids.

Discussion: These cases highlight the diagnostic challenges of atypical KD, especially in infants presenting with symptoms suggestive of common infections. The absence of classical features often delay diagnosis. Oher manifestations may reflect systemic inflammatory process that coexist with incidental infections, often delaying recognition. IVIG resistance occurs in ~10–20% of KD cases, and tumor necrosis factor-α blockade with infliximab has emerged as an effective rescue therapy to control inflammation. Early echocardiographic assessment in infants with unexplained fever and elevated inflammatory markers, even when other findings are present, is crucial for timely diagnosis and to prevent coronary sequelae.

Conclusion: Atypical Kawasaki disease can mimic systemic infection in infants, leading to delayed diagnosis and treatment. Early echocardiographic evaluation is essential in such infants. Infliximab serves as a safe and effective alternative in IVIG-resistant cases, promoting rapid clinical recovery and halting further progression of vasculitis.

ABSTRACT 16

TITLE: CLINICAL AND LABORATORY PROFILE OF CHILDREN ADMITTED WITH KAWASAKI DISEASE AND THEIR OUTCOME IN A TERTIARY CARE CENTRE IN KERALA

Authors with Affiliation
Gayathri S. Iyer, Junior Resident, Department of Paediatrics
Akash Nair, Former Junior Resident, Department of Paediatrics
Sankar VH, Professor and Head, Department of Medical Genetics
Shermin Nasreen A, Additional Professor (CAP), Department of Paediatrics
SAT Hospital, Government Medical College, Thiruvananthapuram
Presenting Author

Dr Gayathri S. Iyer
Junior Resident, Department of Paediatrics
SAT Hospital, Government Medical College, Thiruvananthapuram
Phone: 9400788276
Email ID: gayathrisiyer98@gmail.com

Background

Kawasaki Disease (KD) is an enigmatic disease with unclear etiology. In developed countries Kawasaki Disease has replaced rheumatic fever as the most common cause of acquired heart disease amongst children.

Objectives

To study the clinical and laboratory profile of hospitalized cases of Kawasaki Disease in a Tertiary care center with assessment of outcome. Also, to study the factors associated with adverse outcome of Kawasaki disease as assessed by coronary artery abnormalities and IVIG resistance. To study the association between 'Kobayashi score' and adverse outcome in Kawasaki Disease

Methods

This is a prospective observational study conducted among 42 children admitted with a diagnosis of Kawasaki disease in SAT Hospital, Medical College Trivandrum from October 2021 to December 2022.

Results

Our study showed that the most common clinical feature of Kawasaki Disease was skin rash (73.8 %), followed by conjunctival congestion (71.4 %). male gender (65.8 %), age group between 12 to 23 months (33.3 %) and incomplete Kawasaki disease (73.8 %) predominated the clinical picture. Investigations revealed elevated CRP (92.9 %), ESR (59.5 %), thrombocytopenia (19.0 %) and Hypoalbuminemia (26.1 %) . Coronary artery aneurysm was present in 45.2% of the cases. Thrombocytopenia and hypoalbuminemia predicted adverse outcome ($p < 0.01$). Kobayashi score was associated with both adverse outcome and IVIG resistance ($p < 0.01$) but did not predict development of coronary aneurysm. One patient with multiple giant aneurysms had sudden cardiac death.

Conclusion

This series of 42 cases of Kawasaki disease highlight the varied clinical spectrum in a tertiary care hospital in Kerala. The peak age group of 1 – 2 years; male gender, and incomplete KD being more prevalent in our population. Coronary artery aneurysm was seen in a large number of patients (45.2 %). Thrombocytopenia, hypoalbuminemia and Kobayashi score predicted adverse outcome.

ABSTRACT 17

Is Kawasaki disease [KD]/ systemic juvenile idiopathic arthritis [sJIA], a distinct entity from KD and sJIA ?

Aishwarya Susanne M[1], Murugan Sudhakar[1], Shruti Irene Varghese[2], Anu Punnen K[1], Sathish Kumar T[1]
Affiliation:
[1]Division of Pediatric Rheumatology, Department of Pediatrics, Christian Medical College, Vellore.
[2]Pediatric Cardiology, Department of Cardiology, Christian Medical College, Vellore

Background:

Kawasaki disease (KD) and systemic juvenile idiopathic arthritis (sJIA) are distinct systemic inflammatory diseases with overlapping clinical features. Without specific diagnostic tests, differentiation can be challenging. Recent research suggests biologic similarities involving interleukin-1 beta. We review a patient with combined KD and sJIA diagnoses (KD/sJIA).

Methods:

Analysis of a child with co-diagnosis of initial KD followed by sJIA [KD/sJIA].

Results:

Initial Illness (May 2019): A 3-year-old boy presented with 8 days of fever, maculopapular rash, strawberry tongue, and bilateral cervical lymphadenopathy. Investigations showed anemia, neutrophilic leukocytosis, thrombocytosis, elevated inflammatory markers, and sterile pyuria. Echocardiography revealed small aneurysms at LMCA and LAD coronaries [Figure-A&B]. He

fulfilled incomplete KD-criteria and received IVIg (2g/kg) on day-13. Due to persistent fever, he was diagnosed with IVIg-resistant KD and treated with pulse methylprednisolone (30 mg/kg/day for 3-days). He was discharged on oral prednisolone and aspirin.

Smouldering macrophage activation syndrome [MAS] (2nd Month): One-month post-discharge, three days after stopping steroids, he presented with fever. Investigations showed anemia, elevated inflammatory markers, elevated ferritin, but normal leukocytes, platelets, and liver enzymes [Figure-A&B]. Considering smouldering MAS, prednisolone was restarted (0.5 mg/kg/day for 3 weeks) with good response.

Recurrence/Evolution (4th Month): After an asymptomatic period, he developed 14 days of high-grade intermittent-fever, non-evanescent erythematous rash, strawberry tongue, cervical lymphadenopathy, and hepatosplenomegaly. Echocardiography showed normal coronary arteries. Diagnosed with recurrent incomplete KD, he received IVIg (2 g/kg) on day 18 of fever. Persistent fever prompted repeat labs showing thrombocytopenia, elevated ferritin and triglycerides, and low fibrinogen, fulfilling Ravelli criteria for MAS [Figure-A&B]. He received pulse methylprednisolone with improvement.

5-10th Month: He had intermittent fever spikes requiring steroids, with evanescent rash and persistently elevated inflammatory markers. Diagnosis was revised to sJIA. Steroids were tapered over 3 months. By the tenth month, he was asymptomatic with normal inflammatory markers.

Follow-up: Over 5-years of follow-up, sJIA remained monocyclic, hence, genetic-analysis was not pursued.

Conclusion:

Our index child, as well as the reported cases in literature [~25 cases] of combined diagnoses of KD and sJIA (KD/sJIA) illustrate the potentially shared immunopathology. We propose this KD/sJIA as a separate distinct clinical-entity as unlike KD, this entity has more predisposition to be incomplete-KD, IVIg-resistance, incidence of MAS [30% vs 1%], less-frequency of moderate-giant aneurysms, and less incidence of conjunctival injection. Similarly, this entity is distinct from sJIA as this entity has increased frequency of coronary aneurysms, peripheral features of KD, and MAS [30% vs 10%].

Age of the child	3 years (2019)	2019	2019	2019	2019	2019	2019	2019	2019	2020	4 years	2020	2020
Date	19-May	28-May	19-Jun	16-Sep-	02-Oct	08-Oct	15-Oct	21-Nov	31-Dec	12-Feb	16-Apr	14-May	29-Oct
Event	Incomplete KD - 1st episode	Review visit	Fever on steroids		Incomplete KD second episode	MAS	Review	Fever on steroids	Arthralgia	Rash	Fever +		Naproxen stopped
Haemoglobin (g/dL, N: 11-15]	**8.4**	6.4	**6.8**	**7.9**	**6.3**	**6.3**	**8.6**	**9.2**	**8.9**	**9.6**	**9.2**	**10**	**8.5**
Total leukocyte counts [x10^9/L, N: 4-11]	**32.7**	**20.7**	**13.1**	**22**	**21.6**	**17.2**	**17.8**	**12.4**	**12.4**	**16.2**	**31.5**	**11.5**	**9.3**
Differential counts (%) N/L/E/M	67/28/0/3	76/18/2/4	73/19/0/8	86/11/0/3	67/25/1/7	87/12/1/0	69/22/0/9	64/23/0/10	50/31/11/8	30/42/20/8	85/9/1/3	57/30/5/8	34/46/12/8
Platelets [x10^9/L, N: 150-450]	**4.83**	2.06	3.31		**5.13**	1.62	1.95	3.05		4.77	4.81	3.83	4.34
ESR (mm/1st hour) [N: <10]			83		90				38	37	41	32	42
CRP (mg/L) [N: <6]	**135**	**77.9**	**56.7**	**17.9**	**169**	**92.1**			**20.7**	7.23	72.1	10.8	8.18
Serum Albumin (g/dl) [N: 3.5-5]	**2.8**				3.2								
ALT (U/L) [N: <45]	12				4	70	28	16	13	14	72	11	11
Urine WBC (Cells/ HPF, N: <5)	**24**		6										
LDH (U/L, [N: 192-321])	1986												
Fibrinogen (g/L, [N1.62-4.01])			447			133							
Triglycerides (mg/dl) [N: <75]			155			351							
Ferritin (ng/ml) [N: 5-100]			1435.3			72685.6	1639.9	578.7	99.8				
Creatinine (mg/dl [N: 0.2-4.3])	0.27	0.27	0.28		0.27	0.27	0.2			0.33	0.27	0.31	0.29

Figure 1A: Laboratory investigations from Initial diagnosis to 10th month of Illness

Timeline	At diagnosis		2nd episode	
ECHO	**24-May-19**		**02-Oct-19**	
	Size [mm]	**Z-score**	**Size [mm]**	**Z-score**
LMCA	2.75	**2.13**	2.5	**1.55**
LAD	**2.9**	**4.21**	**1.77**	**0.91**
RCA	2.3	1.67	1.41	-0.78

Figure 1B: ECHO parameters at initial diagnosis and at recurrent episode of KD [4-months later]

ABSTRACT 18

Title: Pan-Coronary Artery Aneurysms in Kawasaki Disease: Clinical and Imaging Insights from our Experience at Chandigarh, North India

Authors: Soumyadeep Sarkar[1], Rakesh Kumar Pilania[1], Dr Dev Desai[1], Yamini Sharma[1], Ripudaman Singh[1], Pandiarajan Vignesh[1], Deepti Suri[1], Amit Rawat[1], Manphool Singhal[2], Anju Gupta[1], Surjit Singh
[1]Allergy immunology unit, Department of Paediatrics, PGIMER Chandigarh
[2]Department of Radiodiagnosis and Imaging , PGIMER Chandigarh

Presenting Author : Dr Soumyadeep Sarkar, DM fellow Paediatric clinical immunology and Rheumatology, PGIMER Chandigarh
Contact : 9674558654/ Email: sarkardrsoumyadeep@gmail.com

Background

Kawasaki disease (KD) is the most common cause of acquired heart disease in children, with coronary artery involvement occurring in approximately 25% of untreated cases. Pan-coronary artery aneurysm (PCAA), defined as the involvement of both right and left coronary arteries along with their major branches, represents a rare and severe phenotype of KD. The present study aimed to evaluate the clinical characteristics, laboratory parameters, and coronary imaging profiles of children with PCAA secondary to KD, over a 15-year period at a tertiary care center.

Methods

Seventeen children diagnosed with KD and confirmed to have coronary abnormalities involving both right and left coronary arteries were enrolled between 2010 and 2025. Demographic data, clinical features, hematological and biochemical parameters, echocardiographic findings, and CT coronary angiography (CTCA) results were analyzed. Coronary artery z-scores were calculated using Cardio Z (Pedz) software, and aneurysms were defined as z-score ≥2.5.

Results

Of the 17 patients, 16 (94%) were male, demonstrating a marked male predominance. The median age at diagnosis was 44 months (range 4–156). Fever was universal (100%), followed by oral mucosal changes (88%), rash (64%), ocular involvement (59%), and periungual desquamation (65%). Other findings included dorsal edema (47%) and cervical lymphadenopathy (41%). Median hemoglobin was 9.1 g/dL, with a total leukocyte count of 17.8×10^9/L and a platelet count of 767×10^9/L, indicating anemia, leukocytosis, and thrombocytosis. Elevated inflammatory markers were observed (median ESR 88 mm/hr, CRP 103 mg/L), and hypoalbuminemia was common (median 3.3 g/dL). All children received IVIg and infliximab, while cyclosporine was used in 41% and warfarin in 24%. Mean delay in IVIg administration was 16 days (range 6–60), correlating with more severe coronary involvement. CTCA revealed that 94% of patients had at least one giant aneurysm (≥8 mm). The LAD was the most frequently involved vessel (mean 5.0 mm), followed by LMCA (mean 4.6 mm). Segmental analysis demonstrated predominant proximal aneurysms, with extension to mid or distal segments in several cases. CTCA identified skip lesions, focal ectasias, and diffuse aneurysmal changes not detected on echocardiography, underscoring its diagnostic importance.

Conclusion

Pan-coronary artery involvement represents a rare but serious manifestation of KD. The predominance of giant aneurysms, high inflammatory burden, and treatment resistance emphasize the need for early diagnosis, timely IVIg administration, and therapy intensification. CT coronary angiography plays a crucial role in defining coronary anatomy and guiding long-term management to prevent ischemic and thrombotic complications.

ABSTRACT 19

Clinico-epidemiological profile of children with Giant coronary artery aneurysm due to Kawasaki Disease: A long term follow-up study

Authors: Soumyadeep Sarkar[1], Rakesh Kumar Pilania[1], Dr Dev Desai[1], Yamini Sharma[1], Pandiarajan Vignesh[1], Deepti Suri[1], Amit Rawat[1], Manphool Singhal[2], Anju Gupta[1], Surjit Singh
[1]Allergy immunology unit, Department of Paediatrics, PGIMER Chandigarh
[2]Department of Radiodiagnosis and Imaging , PGIMER Chandigarh
Presenting Author: Dr. Soumyadeep Sarkar

Background

Kawasaki Disease (KD) is a leading cause of acquired heart disease in children and is characterized by systemic vasculitis. Approximately 25% of untreated patients develop coronary artery aneurysms (CAA), with giant coronary artery aneurysms (GCAA) representing the most severe form, defined as a coronary diameter exceeding 8 mm or a z-score ≥10. These aneurysms are associated with thrombosis, stenosis, and long-term cardiovascular morbidity. The present study aimed to describe the clinico-epidemiological features and long-term outcomes of children with GCAA secondary to KD over a 15-year period.

Methods

Children diagnosed with KD and confirmed to have GCAA between 2010 and 2025 were enrolled after obtaining informed consent. Clinical data, demographic details, hematological and biochemical parameters, echocardiographic findings, and CT coronary angiography results were analyzed. Coronary artery z-scores were calculated using Cardio Z (Pedz) software, and GCAA

was defined as z ≥10 or an absolute diameter ≥8 mm. Patients with pre-existing cardiac disease, systemic autoimmune disorders, or without CTCA were excluded from the analysis.

Results

Fifty patients met the study criteria. The mean age at diagnosis was 27 months, with 12 children below 1 year and 6 below 6 months of age. The male-to-female ratio was 36:14, and the mean duration of fever before diagnosis was 12 days. Complete KD was seen in 22 patients (44%). Common clinical findings included rash (60%), cervical lymphadenopathy (38%), irritability (34%), periungual desquamation (44%), and perianal desquamation (18%). Laboratory findings showed mean hemoglobin of 9.4 g/dL, platelet count of 6.8 lakhs/µL, and leukocyte count of 16,800/µL. Mean ESR was 60 mm/hr, CRP 21 mg/L, NT-proBNP 482 pg/mL, albumin 2.8 g/dL, sodium 132.5 mEq/L, and ALT 48 mg/dL. Aneurysms were located in the LAD (72%), LMCA (36%), RCA (38%), and LCX (10%). Thirty-eight children had a single aneurysm, ten had two, and two had three. Regression of all giant aneurysms occurred in 28 patients, while 12 showed no regression and two had worsening. Six children achieved complete normalization. Regression to medium, small, and dilated segments was observed in 16, 8, and 4 patients respectively. The mean time to regression was 302.6 days. Thrombus was noted in seven patients, and calcification in five.

Conclusion

Giant coronary artery aneurysm is a severe complication of KD. Long-term CAA surveillance demonstrated partial or complete regression in over half of the patients, although a subset showed persistence or progression. Continuous follow-up with serial echocardiography and CT coronary angiography remains essential for detecting complications such as thrombosis and calcification, ensuring timely intervention and improved cardiovascular outcomes.

ABSTRACT 20

KAWASAKI DISEASE IN INFANTS: A RETROSPECTIVE ANAYSIS FROM TWO NORTH INDIAN CENTERS

DR MANJARI AGARWAL*, DR ABHAY SHIVPURI**, DR NEHA RAJPAL*, DR SUJATA SAWHNEY*

*SIR GANGA RAM HOSPITAL, NEW DELHI

** NEOCLINIC HOSPITAL, JAIPUR
Presenting author: Dr Manjari Agarwal, drmanjari2014@gmail.com
Co author: dr Abhay Shivpuri, abhayshivpuri1@gmail.com

Background: Kawasaki disease in infants is a diagnostic dilemma owing to its incomplete presentation.This leads to a delay in diagnosis and a consequent high incidence of coronary artery involvement.
We undertook this retrospective analysis to understand the presentation of Kawasaki disease in infants.

Objectives:

1. To study the clinical features of Kawasaki disease at presentation in infants
2. To study the treatment given and the response to treatment

Methods: All infants (upto one year of age at disease onset) who presented to the two units of Sir Ganga Ram hospital and Neoclinic hospital, Jaipur from 2019- 2025 were included in the study.

Results: 34 children (20 boys and 14 girls) were included in the study. Median age at onset of Kawasaki disease was 6.5 years (IQR 3-12 months). Median delay to diagnosis was 10 days (IQR 4-21 days).79% children had incomplete disease at onset. One had atypical presentation with seizures and rest 6 had complete disease.76% (26) had coronary artery involvement. 8 (23%) had medium coronary artery dilatation and 26% had small and 26% had giant aneurysms each. 2 children had a thrombus in the giant aneurysms. All children had fever at onset. 97% children had irritability. Rash, dry, cracked lips and redness of eyes were the commonest presenting feature in 44% each. Redness of mouth was seen in 38%,10 children had skin peeling.26% children had diarrhoea at onset which also attributed to a delay in diagnosis. Arthritis was uncommon and was seen in only 2 children at onset. 19 children were given IVIG along with high dose(30mg/kg) of aspirin. 15 children were given IVIG along with steroids at onset (due to the presence of coronary artery lesions at the time of diagnosis, primary intensification was done). 7 children required 2nd dose of IVIG and steroids. 7 children were given infliximab as rescue treatment due to persistent worsening of coronary artery lesions. 3 children required Ciclosporin as well in addition to infliximab and steroids.

Conclusion: A high index of suspicion is essential to diagnose Kawasaki disease in infants as a majority of these children have an incomplete disease presentation

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ABSTRACT 21

Title: Giant Coronary Aneurysms in Kawasaki Disease: Retrospective Analysis of Risk Factors and Clinical Outcomes from a Tertiary Center in Kerala

Authors:

[1]Dr Deeksha V, DM 1st year resident, Dept. of Rheumatology and Clinical Immunology Amrita Institute of Medical Sciences

[2]Dr Abhinav Chandel, DM 3rd year resident, Dept. of Rheumatology and Clinical Immunology Amrita Institute of Medical Sciences

[3] Dr. Manu Pradeep Research Fellow, Dept. of Rheumatology and Clinical Immunology, Amrita Institute of Medical Sciences

[4]Dr Suma Balan, HOD, Dept. of Rheumatology and Clinical Immunology, Amrita Institute of Medical Sciences

Presenting Author: Dr Deeksha V, Mail – deekshav392@gmail.com, Phone Number 9611573492

Background:

Kawasaki disease (KD) is an acute vasculitis of childhood that predominantly affects medium-sized arteries and remains the leading cause of acquired heart disease in children in developed countries. A critical complication of KD is the development of coronary artery aneurysms (CAAs); in untreated cases, up to 15–25% may develop aneurysms. Among these, giant coronary aneurysms (commonly defined as a Z-score ≥10 or an absolute inner diameter ≥8 mm) carry the highest risk of adverse cardiovascular outcomes, including thrombosis, myocardial infarction (MI), and sudden death. Early recognition of KD and prompt initiation of treatment—particularly within 10 days of fever onset—are key to mitigating aneurysm formation and its sequelae. Given the formidable complications of giant aneurysms, early diagnosis and early intensification of treatment are of paramount importance.

Methods:

We conducted a retrospective case series at Amrita Institute of Medical Sciences (AIMS) between 2019 and mid-2025, including patients diagnosed with KD who developed giant coronary aneurysms. Clinical data, treatment interventions, and outcomes were extracted from electronic health records and analyzed descriptively. Giant aneurysms were defined based on criteria from the American Heart Association (AHA): Z-score >10 or inner coronary diameter >8 mm.

Results:

Twenty children with giant aneurysms were identified (median age at presentation 1.2 years, IQR 0.35–2.9). Female sex comprised 4/20 (20%). All cases were referred late; 11/20 (55%) presented with already established giant aneurysm. Loss to follow-up occurred in 4/20 (20%). Atypical/incomplete KD occurred in 4/20 (20%) and 5/20 (25%) respectively. Median time to KD diagnosis was 10 days (IQR 7–13.7). Delay in receiving initial intravenous immunoglobulin (IVIG) beyond 10 days occurred in 11/17 (64.7%) where data were available. Median time to treatment intensification was 17 days (IQR 12–20). Intensification interventions included: second dose IVIG in 6/20 (30%), methylprednisolone in 11/20 (45%), oral prednisone in 16/20 (80%), infliximab in 18/20 (90%), steroids & infliximab in 17/20 (85%), cyclosporine in 7/20 (35%), anakinra in 3/20 (15%), and combined cyclosporine & anakinra in 2/20 (10%). At latest follow-up (n=20), anticoagulants had been ceased in 8/20 (40%). Morphological outcomes in 19 children: static aneurysm size in 9/19 (47.3%), reduced to moderate size in 3/19 (15.8%), to mild in 2/19 (10.5%), and resolved in 5/19 (26.3%). Complications included MI in 1/20 (5%) requiring thrombolysis and subsequently coronary artery bypass grafting (CABG) in 1/20 (5%); fatal severe coronary ischemia in 1/20 (5%); left ventricular dysfunction in 1/20 (5%); thrombus formation in 4/20 (20%)—50% of whom were on warfarin and 50% on low-molecular-weight heparin. Recurrence—defined as progressive dilatation after a static period—was identified in 2/20 (10%). One case had aneurysm increase from 6.2 mm to 10 mm after stopping anakinra; the other had recurrence after about 10–11 weeks with fever, rash, elevated inflammatory markers (CRP 245 mg/L, ferritin 447 ng/mL, NT-proBNP ~ 8000 pg/mL), and aneurysm growth from 17.2 mm to 19 mm—suggestive of a polycyclic variant of KD.

Conclusion:

KD complicated by giant coronary aneurysms is associated with significant morbidity—including MI, thrombosis, LV dysfunction, and mortality. Our series underscores that delayed diagnosis and delayed IVIG initiation are common in such high-risk cases. Early recognition of KD—especially in young infants, those with incomplete/atypical presentation, or those resistant to IVIG—is essential. Moreover, early and aggressive treatment intensification appears critical to improving outcomes. These findings reinforce the need for heightened clinical vigilance and timely therapeutic escalation in high-risk KD.

Table 1. Clinical Characteristics, Treatment Interventions and Outcomes in Children with Giant Coronary Aneurysms due to Kawasaki Disease (n=20)

Category	Parameter	Findings
Demographics & Presentation	Total patients	20
	Median age at presentation (IQR)	1.2 years (0.35–2.9)
	Female sex	4 (20%)
	Atypical / Incomplete KD	9 (45%) (4 atypical, 5 incomplete)
	Referred late with established giant aneurysm	11 (55%)
	Loss to follow-up	4 (20%)
Diagnosis & Timing	Median days to KD diagnosis (IQR)	10 (7–13.7) days
	Delay in IVIG >10 days	11/17 (64.7%)
	Median days to treatment intensification (IQR)	17 (12–20) days
Treatment Intensification	Second IVIG dose	6 (30%)
	Methylprednisolone pulse	11 (45%)
	Infliximab	18 (90%)
	Steroids & Infliximab combination	17 (85%)

	Cyclosporine	7 (35%)
	Anakinra	3 (15%)
Outcomes at Last Follow-Up	Anticoagulant cessation	8 (40%)
	Aneurysm morphology – Static	9 (47.3%)
	Resolved	5 (26.3%)
	Reduced to moderate	3 (15.8%)
	Reduced to mild	2 (10.5%)
Complications	Myocardial infarction	1 (5%) (required thrombolysis and CABG)
	LV dysfunction	1 (5%)
	Mortality (severe ischemia)	1 (5%)
	Recurrence	2 (10%)

ABSTRACT 22

Long-Term Coronary Sequelae and Graft Failure following early CABG in Infantile Kawasaki Disease: A Seventeen-year journey to Transplantation

Authors:

Dr. R. Krishna Kumar
Professor and Head, Department of Paediatric Cardiology
Amrita Institute of Medical Sciences, Kochi

Dr. Dr. Suma Balan
Consultant Paediatric Rheumatologist,
Amrita Institute of Medical Sciences, Kochi

Dr.Taniya Rachel Issacs
DM Paediatric Cardiology
Amrita Institute of Medical Sciences, Kochi

Presenting Author:
Dr. Ghaniya K.C.

Tel: 9847066667

Introduction:

Kawasaki disease (KD) is an acute, self-limiting vasculitis of childhood predilection for coronary arteries, leading to coronary artery aneurysm (CAA) in upto 25% of untreated, and 5% despite prompt IVIG therapy. Giant coronary aneurysms (>8 mm) exhibit a high risk for thrombosis, ischemia, and myocardial infarction. Coronary artery bypass grafting (CABG) in children with KD remains a lifesaving intervention, offering myocardial perfusion, however, long-term graft outcomes and survival are influenced by patient age, graft type, baseline & evolving coronary pathology.

We present a longitudinal 17-year follow-up of a child with KD-related triple-vessel disease who underwent young CABG (at 2½ years age), illustrating the evolving natural history of post-KD coronary sequelae and the late challenges in graft and myocardial survival.

Case summary:

A 2½-year-old boy presented with high grade fever, respiratory distress, and wheeze, initially managed as lower respiratory tract infection (LRTI), later presenting with features of heart failure 2 months later. Echocardiography (ECHO) and coronary angiography (CAG) revealed giant aneurysms involving the LMCA bifurcation, proximal LAD, and complete RCA occlusion with severe LV dysfunction (LVEF 24%). Child was hemodynamically stabilized and underwent triple-vessel CABG (LIMA to LAD, RIMA to RCA, and saphenous vein graft (SVG) to OM2). Postoperative recovery was uneventful, and medical therapy (diuretics, ACE inhibitors, β-blockers, and dual antiplatelet therapy) was continued.

At 10-year follow-up, child showed improved LV function (EF 40%), with patent LIMA–LAD and SVG–OM grafts, although the RIMA–RCA graft had regressed.

However, at 15-year follow-up, he presented with heart failure, progressively worsening LV function (EF 24%), global hypokinesia and infarction in LAD and LCx territories on cardiac MRI. Noncompliance and psychological comorbidities (moderate depression) worsened his condition. Over the next 2 years, child continued to have severe LV dysfunction, recurrent heart failure complicated with atrial flutter. Coronary CT revealed calcified LMCA and RCA aneurysms with occluded grafts, necessitating need for orthotopic cadaveric cardiac transplantation. (Fig 1,2)

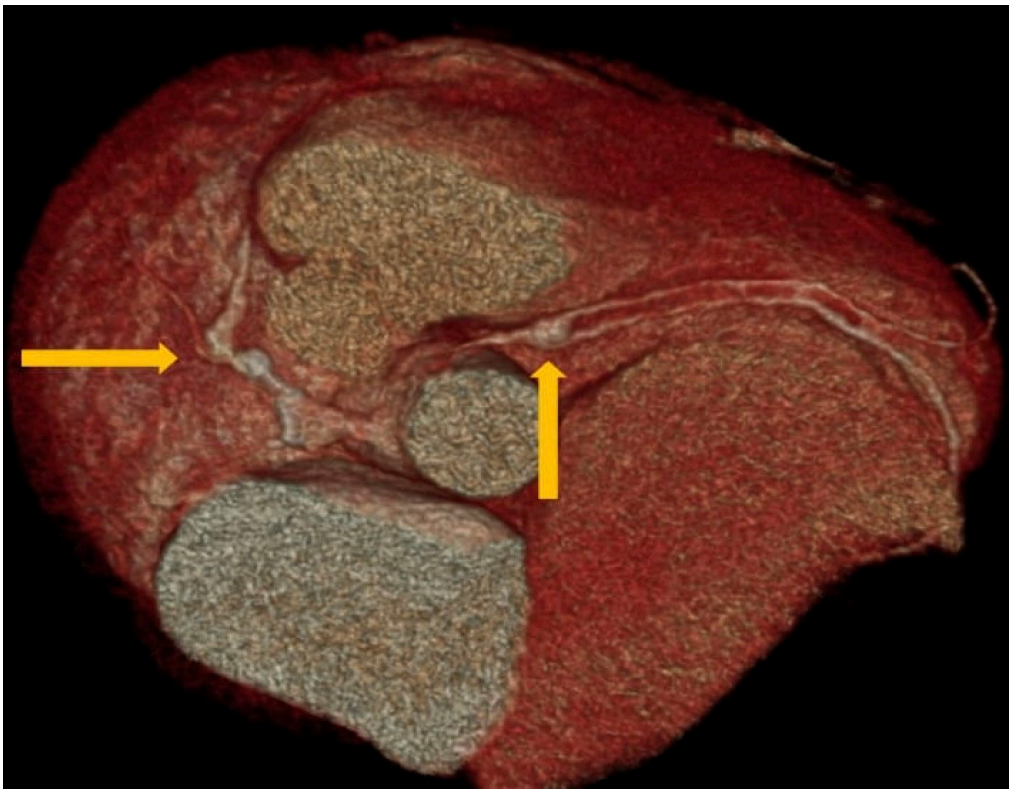

Fig 1: Cardiac CT showing calcified LMCA with anomalous RCA

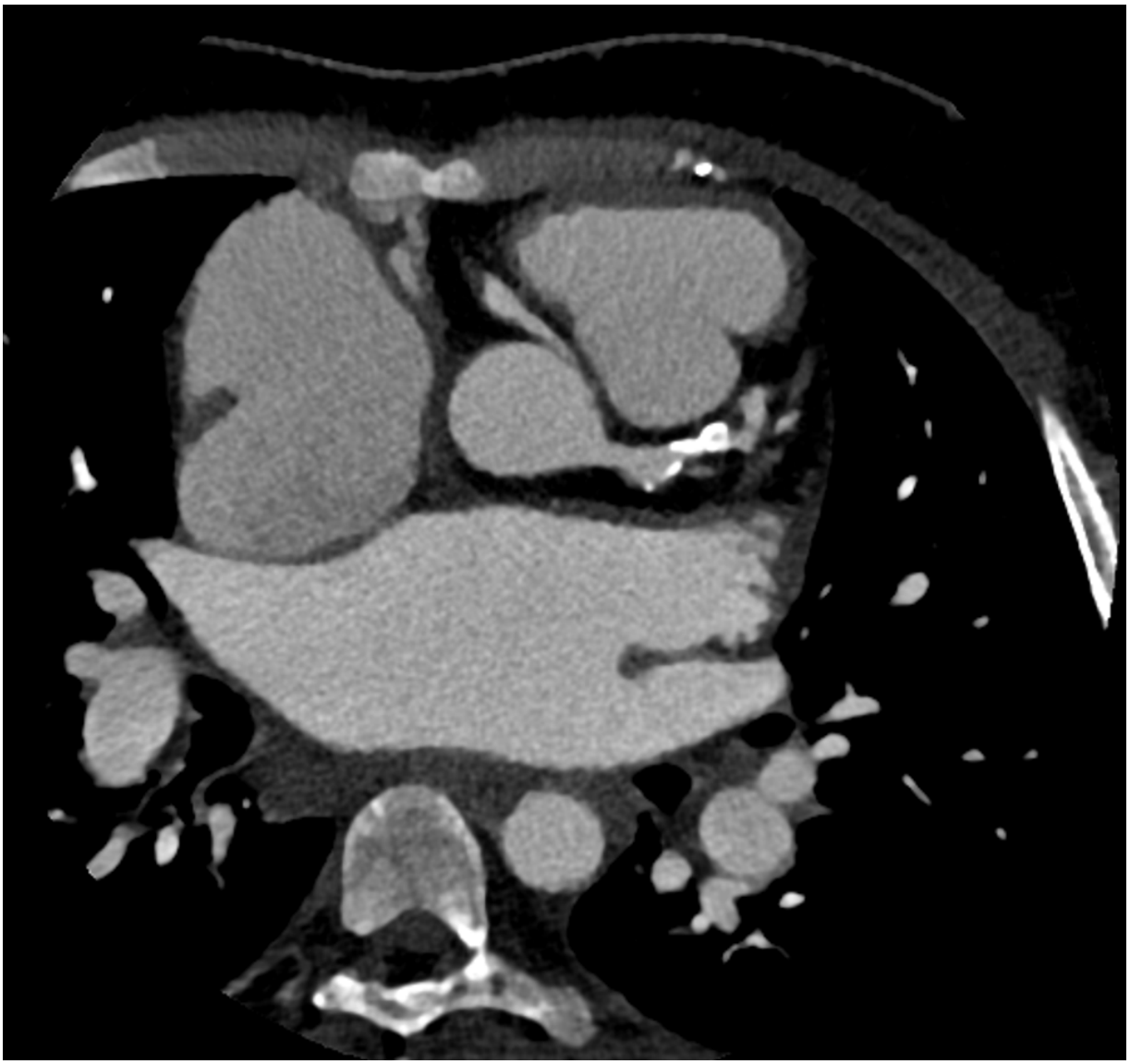

Fig 2: Calcified LMCA aneurysm

Despite ECMO and IABP support for primary graft dysfunction, he succumbed to multi organ failure on postoperative day six.

Discussion:

KD-induced coronary vasculitis leads to vessel wall disruption, aneurysm formation, intimal thickening, and eventual stenosis. Chronic ischemia, microvascular dysfunction, and graft

degeneration contribute to progressive ventricular dysfunction, even decades later [1,2]. Initial presentation masquerading as LRTI/ viral myocarditis led to delayed diagnosis, loss of window period for immunomodulation/ intensification, resulting in poor outcomes, particularly in patients with early-onset severe LV dysfunction and extensive coronary involvement.

CABG is indicated in pediatric KD when there is significant proximal stenosis with ischemia or infarction, failure of medical therapy, and viable myocardium. Bilateral internal mammary artery grafts (LIMA and RIMA) are preferred due to superior long-term patency (>85% at 20 years), in contrast to saphenous vein grafts, which show marked attrition beyond 10 years [3,4] However, somatic growth mismatch, persistent inflammatory remodeling and diffuse coronary disease may lead to graft failure.

Despite CABG, long-term outcomes depend on age at surgery (< 3 years age), extent of coronary involvement, persistent vasculitic activity and long term compliance to care. Advanced therapies, including ARNI and SGLT2 inhibitors have shown symptomatic benefit in post-KD cardiomyopathy [2]

Graft surveillance via CT angiography or stress perfusion MRI remains indispensable to detect early failure.

In cases of end-stage ischemic cardiomyopathy, as in this case, heart transplantation remains viable, with survival outcomes comparable to other pediatric cardiomyopathies in absence of systemic inflammation or graft vasculopathy [4].

Conclusion:

This case represents the complete natural history of post-Kawasaki coronary vasculopathy, from giant CAA formation, young CABG to late graft failure and cardiac transplantation. It highlights that while CABG offers durable myocardial perfusion and survival benefit in childhood, long-term graft degeneration, ventricular remodeling, and late heart failure remain major challenges. This case highlights the significance of timely diagnosis, aggressive immunomodulation in acute KD, meticulous surgical planning.

Despite successful revascularization, patient may continue to undergo progressive coronary and

myocardial remodeling necessitating lifelong cardiology follow-up, including imaging, risk factor control, and psychosocial support.

References:

1. Newburger JW et al. N Engl J Med. 2016;374:154–163.
2. Dionne A et al. J Am Coll Cardiol. 2022;79:356–372.
3. Kitamura S. Ann Thorac Surg. 2020;110:1785–1794.
4. Tsuda E et al. Eur J Cardiothorac Surg. 2021;59:612–620.

ABSTRACT 23

Title: Peripheral Gangrene in Kawasaki Disease: A Clinical Conundrum

Authors: Gayathri C.V[1]., Ripudaman Singh[1], Rakesh Kumar Pilania[1], Pandiarajan Vignesh[1], Deepti Suri[1], Amit Rawat[1], Jasmina Ahluwalia[2], Anju Gupta[1], Surjit Singh[1]

[1]Allergy immunology unit, Department of Paediatrics, PGIMER Chandigarh
[2]Department of Hematology , PGIMER Chandigarh
Presenting Author: Dr. Gayathri CV

Background

Kawasaki disease (KD) is an acute, self-limiting medium vessel vasculitis primarily affecting young children. While coronary artery aneurysms are its most recognized complication, involvement of other medium-sized arteries such as brachial and femoral vessels may also occur, occasionally leading to peripheral ischemia and gangrene. Peripheral gangrene is an exceedingly rare and under-recognized manifestation of KD that poses significant diagnostic and therapeutic challenges.

Materials and Methods

All children diagnosed with KD between January 1994 and June 2025 were reviewed. Diagnosis was based on the American Heart Association 2017 criteria. Clinical records of children who developed peripheral gangrene were retrospectively analyzed, focusing on demographic data, clinical presentation, laboratory parameters, cardiac findings, treatment received, and outcomes.

Results

Among 1,545 children diagnosed with KD over the 31-year period, 14 (0.9%) developed peripheral gangrene. There were five males and nine females, all presenting with prolonged fever and periungual desquamation in the convalescent phase. Elevated pro-BNP and inflammatory markers were noted in all patients. Echocardiography revealed decreased left ventricular ejection fraction suggestive of myocarditis in five patients, and coronary artery abnormalities in three. Atypical systemic manifestations included macrophage activation syndrome, cerebral infarction, arthritis, intracranial hemorrhage, malar rash, and acrodermatitis enteropathica in one patient each. Additional immunomodulatory therapy was required in seven patients, including methylprednisolone (n=4) and infliximab (n=6). All children received low molecular weight heparin and aspirin. Prothrombotic workup was negative in all cases. Complete resolution of gangrenous lesions occurred in all patients on follow-up.

Conclusion

Peripheral gangrene represents a rare but important vascular complication of Kawasaki disease. It may occasionally precede classical features, creating diagnostic uncertainty. Recognition of this manifestation is critical, as timely initiation of immunomodulatory and antithrombotic therapy can result in favorable outcomes. Clinicians should maintain a high index of suspicion for KD in children presenting with peripheral gangrene, especially in the setting of prolonged fever and elevated inflammatory markers.

ABSTRACT 24

Title:
Clinical Spectrum and Outcomes of Kawasaki Disease: A Case Series from a Tertiary Care Center

Background: Kawasaki Disease (KD) is an acute, self-limited vasculitis predominantly affecting children under five years of age. It remains the leading cause of acquired heart disease in children in developed countries. Despite diagnostic criteria established by the American Heart Association, KD continues to present diagnostic challenges due to its variable clinical manifestations.

Objective: To describe the clinical features, laboratory profiles, treatment responses, and short-term outcomes of children diagnosed with KD at a tertiary care hospital, emphasizing the importance of early recognition and management.

Methods: This retrospective case series analyzed 10 pediatric patients diagnosed with KD at JUBILEE MISSION MEDICAL COLLEGE, Thrissur, Kerala, between May 20th 2022 and May 25th 2025. Medical records were reviewed for demographic data, presenting symptoms, laboratory parameters, echocardiographic findings, treatment modalities, and clinical outcomes.

Results: A total of 10 patients [Mean age: 3.4 years (range: 11 months to 12 years]; male-to-female ratio: 1:1) were included. Fever lasting ≥5 days was present in all cases (100%). Other common features included conjunctival injection (90%), mucosal changes (100%), rash (100%), extremity changes (60%), and cervical lymphadenopathy (80%).

Laboratory evaluations showed elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) in all patients. Thrombocytosis and leukocytosis were observed in 80% and 50%, respectively during the course in hospital. Echocardiography at diagnosis revealed coronary artery abnormalities in 20% cases.

All patients were treated with a single dose of intravenous immunoglobulin (2 g/kg) alongside high-dose aspirin. No cases of IVIG resistance were observed, and there were no reported

mortalities. Coronary artery abnormalities resolved following treatment.

Conclusion: This case series underscores the clinical variability of KD, with a significant proportion presenting with varying clinical features. Early diagnosis remains critical, as timely administration of IVIG significantly reduces the risk of coronary artery complications. Our findings highlight the need for heightened clinical suspicion in children with persistent fever and systemic inflammation, even in the absence of full diagnostic criteria. Multidisciplinary collaboration and serial echocardiographic evaluation are essential components of optimal management and follow-up.

Key words: Kawasaki disease, IV Immunoglobulin, Aspirin, Strawberry tongue.

ABSTRACT – 25

"BEYOND THE CORONARIES : Rare Presentation of Kawasaki Disease with Vertebral and Basilar Artery Aneurysms in an infant"

Authors:
Dr.Suma Balan
Professor & HOD,Department of Pediatric Rheumatology
Amrita Institute of Medical Sciences , Kochi
Dr.Vaishak Anand
Associate Professor, Department of pediatric Neurology
Amrita Institute of Medical Sciences , Kochi
Presenting author:
Dr.Venkatesh Kumar
Junior resident (3rd year),Department Of Pediatrics
Amrita Institute of Medical Sciences , Kochi
Phone: 9550101871

Background:

Kawasaki Disease (KD) is an acute, self-limiting systemic medium vessel vasculitis of childhood, predominantly affecting the coronary arteries. Involvement of cerebral or vertebral arteries is extremely rare but may lead to catastrophic neurological complications. We report a unique case of KD complicated by vertebral artery aneurysm rupture and subarachnoid hemorrhage (SAH) in 9 months old girl.

Case Summary:

A 9 month-old previously healthy female child presented with high-grade fever, vomiting, loose stools ,rashes and oral mucosal changes for 2 weeks . Initially managed as acute gastroenteritis ,she continued to have fever despite antibiotics. She was then admitted and treated with IV antibiotcs and antipyretics . Investigations revealed neutrophilic leukocytosis , thrombocytosis and markedly elevated inflammatory markers (ESR 85 mm/hr, CRP 111 mg/L) . Initial ECHO showed prominent coronaries with normal ventricular function which repeated later revealed the similar findings.She was treated with multiple IV antibiotics and was also given IVIG (2 g/kg) and aspirin.She continued to have persistent fever spikes despite IVIG but no further anti-inflammatory medications were given.

On the 14th day after admission, she developed seizures with respiratory failure needing mechanical ventilation,later tracheostomy tube was placed. MRI brain revealed intraventricular hemorrhage and CT Angiogram done showed saccular aneurysm of Right Vertebral – Basilar artery junction. Endovascular embolisation was performed followed by Ventriculoperitoneal shunt placement for Obstructive hydrocephalus . Repeat ECHO done reportedly normal .She was discharged on Low dose aspirin, AED's and other supportives. At followup, she remains hemodynamically stable with global developmental delay secondary to severe cerebral injury .

Discussion:

This case illustrates the Incomplete Kawasaki disease with delayed diagnosis with the absence of primary intensification therapy and inadequate anti-inflammatory therapy, resulting in catastrophic neurological sequelae.

Conclusion:

Early consideration of Kawasaki disease in an infant and primary intensification of therapy are key messages from this case. In KD, when fever and elevated inflammatory markers persist, clinicians should screen for aneurysms beyond the coronaries - even if initial coronary imaging appears normal.

ABSTRACT 26

Title: "A Second Chance for the Coronaries": Functional restoration following Coronary artery bypass Grafting in IVIG resistant Kawasaki disease with Giant coronary aneurysms

Authors with affiliation:

Dr. Bhasin Mahak Sunil Geeta, Junior Resident, Pediatrics, AIMS, Kochi; Dr. R Krishna Kumar, Professor and Head, Pediatric Cardiology, AIMS Kochi; Dr. Suma Balan, Professor, Pediatric Rheumatology, AIMS Kochi; Dr Taniya Rachel Isaacs, Senior Resident, Pediatric Cardiology, AIMS, Kochi

Presenting author:

Dr. Bhasin Mahak Sunil Geeta

Phone number: 8126171515

Introduction:

Kawasaki Disease (KD) is a systemic vasculitis and remains the leading cause of acquired pediatric heart disease. While intravenous immunoglobulin (IVIG) significantly reduces coronary complications, a minority of patients develop refractory KD with progressive coronary artery aneurysms (CAA) despite optimal therapy. These cases carry a high risk of thrombosis, myocardial infarction and long-term ischemic complications. We report the detailed clinical course and mid- term outcome of a child with refractory KD with giant aneurysms requiring coronary artery bypass grafting (CABG).

Case summary:

A six-year-old boy, presented with prolonged fever, rash, conjunctival congestion, and mucosal changes. He was diagnosed with classical KD and managed with IVIG and aspirin. The initial echocardiogram (ECHO) was normal.

Child's persistent fever necessitated a second dose IVIG, infliximab, Methylprednisolone pulse therapy, followed by cyclosporine for refractory inflammation. Serial ECHO showed giant aneurysms of the LAD and RCA by 3rd week of illness, with eventual complete occlusion of the proximal LAD and sluggish RCA flow by 3rd month of illness. The patient suffered recurrent anterior wall STEMIs despite antithrombotic therapy (aspirin, clopidogrel, warfarin, and enoxaparin) and thrombolysis. Tc-MIBI scan showed a large infarct involving the apical, antero apical & major septal segments with partial myocardial viability.

At 5th month of illness child underwent 2 graft CABG (LIMA–LAD and RIMA–OM graft). Post-operatively, he recovered with mild LV dysfunction (LV EF 47%), and regional wall motion abnormalities, which gradually improved. At 5-year follow up, child had normal LV function, stable infarct zones with viable myocardium, although aneurysmal segments persisted (LMCA 7.8 mm, LAD 12.5 mm, RCA 13.3 mm).

Discussion:

KD-associated coronary aneurysms results from necrotizing arteritis resulting in disruption of the elastic lamina interna and media, predisposing to aneurysm formation and thrombotic occlusion. Late sequelae include calcification, stenosis, and ischemia [1,2]. The index case exhibited multi-resistant inflammation—refractory to IVIG, infliximab, and steroids necessitating calcineurin inhibition, consistent with refractory KD [3].

Surgical revascularization, such as CABG, is indicated in cases with chronic ischemia, recurrent infarction, or severe coronary occlusion, with confirmed myocardial viability [4]. Meta-analyses demonstrate that internal mammary artery (IMA) grafts provide excellent long-term patency in KD, outperforming saphenous grafts due to preserved endothelial function and adaptability to somatic growth [5]. Despite initial graft occlusion in some patients, collateral circulation facilitates functional recovery [6]. Combined antiplatelet and anticoagulant regimens remain essential in giant CAA. In this case, warfarin and aspirin were maintained long-term with INR monitoring.

Long-term follow-up post-CABG requires lifelong surveillance including imaging, continuous anticoagulation & monitoring for late graft stenosis.

Recent Japanese and Korean KD registries (2020–2023) highlight improved survival rates (>95% 20-year survival) in post-CABG KD patients, with reintervention required in ~10–15%. Emerging treatment including biologic therapies (IL-1 inhibitors), hybrid revascularization techniques and hybrid revascularization, show promise in improving outcomes and reducing aneurysm progression [7].

Conclusion:

This case exemplifies the complex trajectory of classical refractory KD with giant CAA progressing to ischemic heart disease despite early aggressive immunomodulation. CABG remains a lifesaving and durable revascularization strategy in children with obstructive coronary lesions post-KD with viable myocardium.

The patient's recovery of LV function and sustained clinical stability 5-years post-CABG highlights the significance of early surgical referral, tailored anti-inflammatory therapy, and meticulous long-term follow-up for favorable outcomes.

References:

1. Newburger JW et al. N Engl J Med. 2016;374:154–163.
2. Dionne A et al. J Am Coll Cardiol. 2022;79:356–372.
3. Son MBF et al. Circulation. 2021;143:24–34.
4. Kitamura S. Ann Thorac Surg. 2020;110:1785–1794
5. Manlhiot C et al. Circulation. 2017;135:190–203.
6. Tsuda E et al. Eur J Cardiothorac Surg. 2021;59(3):612–620
7. McCrindle BW et al. Circulation. 2022;146:e111–e118.AHA 2022 RHD & KD Guidelines

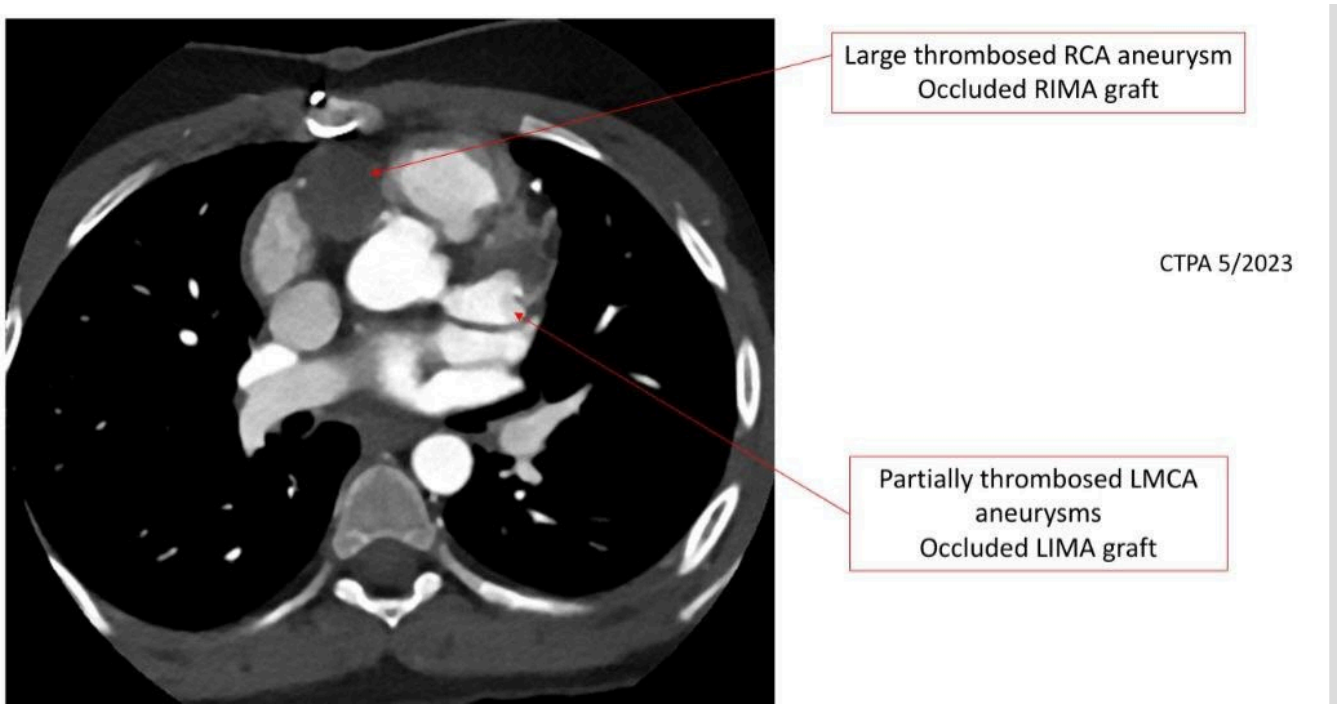

Figure 1: CTPA showing RCA aneurysm with occluded RIMA graft and partially thrombosed LMCA aneurysms and occluded LIMA graft.

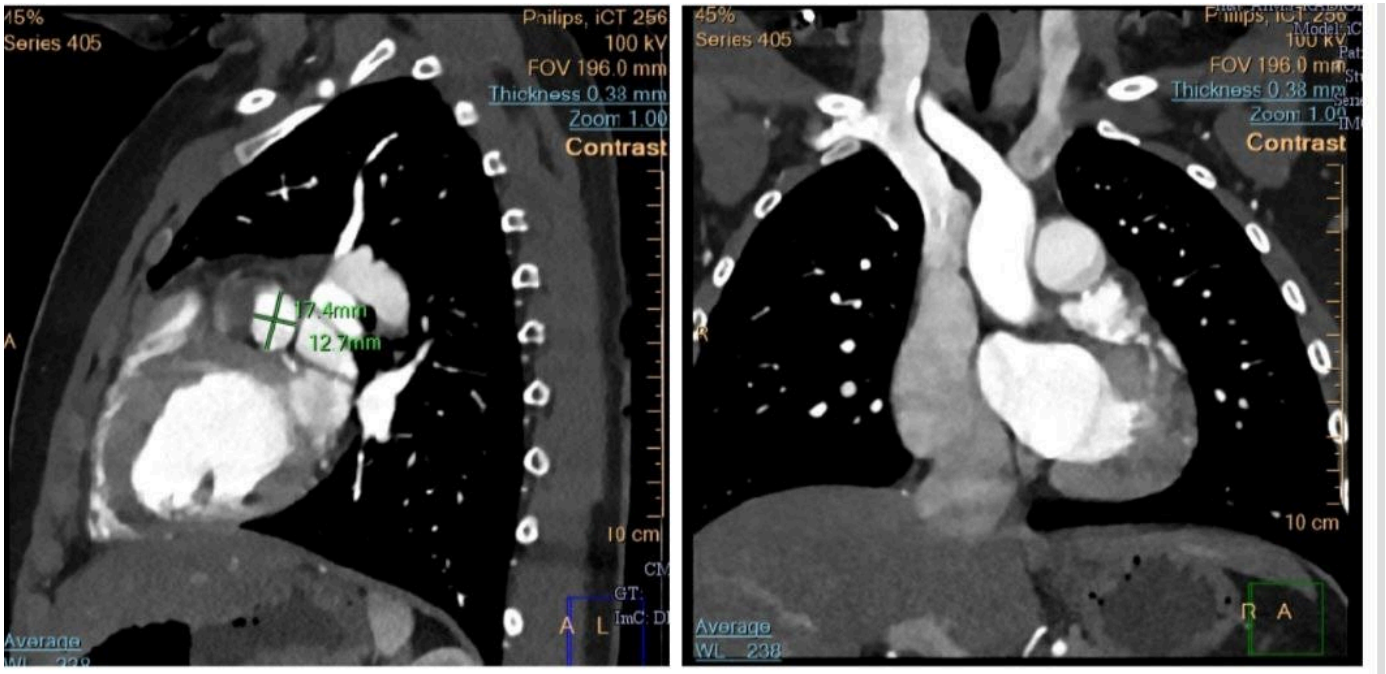

Figure 2: CTPA showing contrast filled lumen of LMCA measuring 17.4x12.7x13.9mm

ABSTRACT 27

CASE REPORT

Title: Missed Kawasaki disease in an infant: Giant Coronary Aneurysms, Myocarditis, and Peripheral Gangrene

Anisha Baji, Sujith John, Abarna Thangaraj, Rakesh Kumar Pilania, Manphool Singhal, Surjit Singh

Background

Kawasaki disease (KD) is a systemic medium-vessel vasculitis predominantly affecting children under 5 years. Diagnosis is particularly challenging in infants due to incomplete or atypical presentations.

Case Characteristics

A 3-month-old girl experienced an acute febrile illness lasting 4 days, which was associated with a generalized maculopapular rash, followed by skin peeling, non-purulent conjunctival injection, erythema, cracking of the lips, and redness of the tongue. These symptoms resolved within one week. She remained well for 3 weeks but subsequently presented with an erythematous facial rash and gangrene of the toes. On examination she was irritable and tachycardic. A scaly, well-defined erythematous rash on bilateral malar regions, and desquamation of the palms and soles were noted. Gangrene was present over 1st and 2nd toes bilaterally. Investigations on admission revealed anemia, neutrophilic leukocytosis and thrombocytosis, with raised inflammatory markers. Pro-Brain natriuretic peptide was 50,611 pg/mL. 2D-ECHO and CT Coronary angiogram revealed giant fusiform aneurysms of all three coronary arteries.

Outcome

A diagnosis of missed infantile KD was made. She was managed with intravenous immunoglobulin (IVIg) 2 g/kg, pulse methylprednisolone 30 mg/kg/day for 3 days followed by oral Prednisolone 2 mg/kg/day, cyclosporine 4 mg/kg/day, Infliximab 10 mg/kg, and second dose of IVIg. She was also started on aspirin and anticoagulation. During her treatment, she developed hemodynamic instability consistent with KD shock syndrome and myocarditis. Intensive care support, including non-invasive respiratory management and vasoactive support including adrenaline, noradrenaline, and milrinone, helped stabilize her condition. With this, she gradually improved, was weaned off supports, and made a full recovery.

Message

Prompt recognition and timely treatment of KD are crucial to preventing severe complications, especially in infants who often present atypically and associated with very high risk for development of coronary artery abnormalities.

ABSTRACT 28

CASE REPORT

Title: Missed Kawasaki disease in an infant: Giant Coronary Aneurysms, Myocarditis, and Peripheral Gangrene

Anisha Baji, Sujith John, Abarna Thangaraj, Rakesh Kumar Pilania, Manphool Singhal, Surjit Singh

Background

Kawasaki disease (KD) is a systemic medium-vessel vasculitis predominantly affecting children under 5 years. Diagnosis is particularly challenging in infants due to incomplete or atypical presentations.

Case Characteristics

A 3-month-old girl experienced an acute febrile illness lasting 4 days, which was associated with a generalized maculopapular rash, followed by skin peeling, non-purulent conjunctival injection, erythema, cracking of the lips, and redness of the tongue. These symptoms resolved within one week. She remained well for 3 weeks but subsequently presented with an erythematous facial rash and gangrene of the toes. On examination she was irritable and tachycardic. A scaly, well-defined erythematous rash on bilateral malar regions, and desquamation of the palms and soles were noted. Gangrene was present over 1st and 2nd toes bilaterally. Investigations on admission revealed anemia, neutrophilic leukocytosis and thrombocytosis, with raised inflammatory markers. Pro-Brain natriuretic peptide was 50,611 pg/mL. 2D-ECHO and CT Coronary angiogram revealed giant fusiform aneurysms of all three coronary arteries.

Outcome

A diagnosis of missed infantile KD was made. She was managed with intravenous immunoglobulin (IVIg) 2 g/kg, pulse methylprednisolone 30 mg/kg/day for 3 days followed by oral Prednisolone 2 mg/kg/day, cyclosporine 4 mg/kg/day, Infliximab 10 mg/kg, and second dose of IVIg. She was also started on aspirin and anticoagulation. During her treatment, she developed hemodynamic instability consistent with KD shock syndrome and myocarditis. Intensive care support, including non-invasive respiratory management and vasoactive support including adrenaline, noradrenaline, and milrinone, helped stabilize her condition. With this, she gradually improved, was weaned off supports, and made a full recovery.

Message

Prompt recognition and timely treatment of KD are crucial to preventing severe complications, especially in infants who often present atypically and associated with very high risk for development of coronary artery abnormalities.