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Original Research Paper

Internal Medicine

UNRAVELING THE CLINICAL SPECTRUM AND OUTCOMES OF KAWASAKI DISEASE: INSIGHTS FROM A CASE SERIES

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ABSTRACT Kawasaki Disease (KD) is an acute, self-limiting systemic vasculitis and remains the leading cause of acquired heart disease in children. This retrospective analysis reviewed 10 pediatric KD cases diagnosed between May 2022 and May 2025 at Jubilee Mission Medical College, Thrissur. Clinical, laboratory, echocardiographic and treatment data were evaluated to understand presentation patterns and short-term outcomes. All children presented with fever ≥5 days, mucosal changes, rash, and elevated inflammatory markers, while conjunctival injection occurred in 90% and extremity changes in 60%. Abdominal symptoms were the most common additional feature, and cardiac involvement was initially detected in 20%. All patients received IVIG (2 g/kg) and high-dose aspirin, with no IVIG resistance or mortality. Coronary abnormalities resolved following treatment. Findings highlight the variability of KD presentation and reinforce the importance of early recognition and standardized therapy to prevent cardiac complications

KEYWORDS : Kawasaki disease, case series, clinical outcomes, cardiac involvement, intravenous IV Immunoglobulin.

INTRODUCTION

Kawasaki disease (KD) is an acute, self-limiting systemic vasculitis that predominantly involves medium-sized arteries, with a marked tendency to affect the coronary vessels. Since its initial description by Tomisaku Kawasaki in 1967, KD has been recognized as the most common cause of acquired heart disease in children worldwide. The condition occurs mainly in infants and young children, especially those younger than five years. Although its exact cause is still unknown, current evidence suggests that genetically susceptible children may develop an exaggerated immune response following exposure to infectious or environmental stimuli. This aberrant immune activation leads to widespread vascular inflammation, potential myocardial involvement, and long-term cardiovascular sequelae.

Early diagnosis remains challenging because clinical manifestations appear gradually and can resemble other febrile illnesses of childhood. **Classic KD** is diagnosed when fever persists for at least five days and is accompanied by at least four of the five **CRASH** clinical features:

- **C – Conjunctivitis:** Bilateral, non-purulent conjunctival injection
- **R – Rash:** Polymorphous, non-vesicular exanthem
- **A – Adenopathy:** Cervical lymphadenopathy, usually unilateral and > 1.5 cm
- **S – Strawberry tongue / mucosal changes:** Oral and lip erythema, fissuring, or strawberry tongue
- **H – Hands and feet changes:** Palmar/plantar erythema, extremity edema, followed later by periungual desquamation

If untreated, approximately 20–25% of children with KD develop coronary artery aneurysms. Prompt therapy significantly reduces this risk to under 5%. The cornerstone of management is a single infusion of intravenous immunoglobulin (IVIG) at 2 g/kg, ideally administered within the first 10 days of illness. IVIG rapidly alleviates fever, modulates inflammation, and lowers the incidence of coronary complications. High-dose aspirin is used during the acute phase for its anti-inflammatory action, followed by low-dose aspirin for antiplatelet therapy. Serial echocardiography is essential to assess coronary artery involvement and guide ongoing follow-up.

The aim of this case series is to outline the clinical presentation, laboratory characteristics, therapeutic responses, and early outcomes of children diagnosed with KD, while underscoring the importance of timely recognition and treatment. Given the potential for serious and lasting cardiac complications, enhanced clinical vigilance and prompt initiation of therapy are vital for improving outcomes in affected children.

MATERIALS AND METHODOLOGY

A retrospective record review was conducted of 10 pediatric Kawasaki disease cases managed at Jubilee Mission Medical College, Thrissur, Kerala. Medical records from May 20, 2022, to May 25, 2025, were examined.

Inclusion Criteria

- Patients fulfilling 4/5 of CRASH Criteria with Fever of more than 5 days
- Patients willing to participate in the study.

Exclusion Criteria

- Patients not fulfilling the CRASH Criteria – Incomplete KD
- Patients not willing to participate

Extracted data included patient demographics, presenting symptoms, laboratory parameters, echocardiographic findings, treatments administered, and clinical outcomes

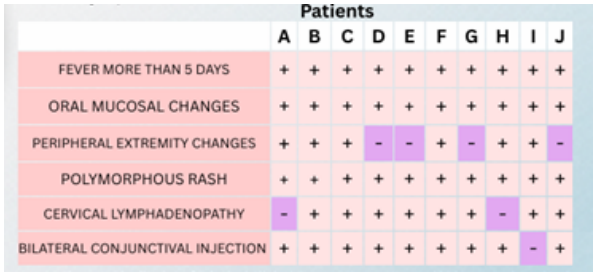

Figure 1: Distribution of Principal Clinical features Among Kawasaki Disease Patients (A-J).

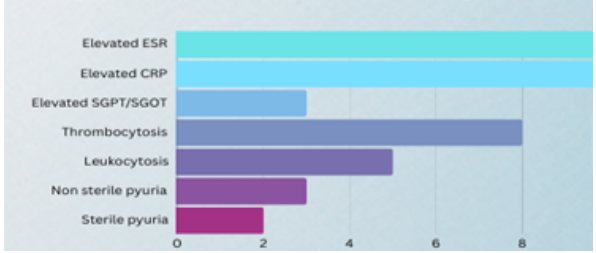

Figure 2 : Laboratory Abnormalities Observed in Kawasaki

Disease Patients

RESULTS

In this Case series, abdominal symptoms were the most frequently reported clinical feature, occurring in six patients. Upper respiratory tract symptoms and anemia were each observed in five patients, indicating that these manifestations are also common in this population.

In Figure 1 -Clinically, all patients (100%) presented with fever lasting five days or more, mucosal changes, and rash. Conjunctival injection was observed in 90% of cases, cervical lymphadenopathy in 80%, and extremity changes in 60%.

Cardiac involvement was the least frequently reported, present in only two patients. However, it remains clinically significant given its potential association with coronary complications.

Figure 2- Laboratory evaluation revealed universally elevated ESR and CRP levels, while thrombocytosis was noted in 80% of patients and leukocytosis in 50%, highlighting the characteristic inflammatory profile in this cohort .Liver enzyme elevation and pyuria were less common. These findings underscore the importance of interpreting laboratory results in the context of the overall clinical presentation.

All patients received standard treatment with intravenous immunoglobulin (2 g/kg) in combination with high-dose aspirin. No cases of IVIG resistance were observed, and there were no mortalities. Notably, the coronary artery abnormalities identified at diagnosis resolved following treatment, underlining the effectiveness of timely therapy.

CONCLUSIONS

This case series highlights the clinical variability of Kawasaki Disease. Consistent with global data, fever, mucosal changes, and conjunctival injection were the most common features, though extremity changes were less frequent. Early administration of IVIG and aspirin resulted in excellent outcomes, with no resistance or mortality and resolution of coronary abnormalities. These findings emphasize the importance of prompt recognition and timely treatment to prevent complications

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