OPEN ACCESS Freely available online

Pediatrics & Therapeutics

ISSN: 2161-0665

Opinion Article

# An Overview on Kawasaki Disease in Pediatrics

**Brian Sims***

*Department of Neonatology, University of Alabama at Birmingham, Alabama, USA*

## DESCRIPTION

Kawasaki Disease or Kawasaki syndrome generally occurs in children younger than 5 years old, leading to heart disease. It was an acute febrile illness, and the exact cause is unknown; first case of this disease was reported in Japan and described by Tomisaku Kawasaki in 1967. The pervasiveness of this disease is highest in children of Japanese and Asian descent compared to other areas of the world. The incidence of this disease in the United States is 25 out of 10000 children aged below five years. This disease may be a prior viral infection that results in an acute vasculitis that affects medium-sized arteries, including the coronary arteries. Various symptoms to identify this disease are fever, rash, irritation and redness of the sclera in the eyes, swelling of the hands and feet, irritation and inflammation of the mouth, lips, and throat and swollen lymph glands in the neck.

This disease forms immune complexes, i.e., signals the proliferation of monocytes and macrophages, resulting in neutrophilia. Severe inflammation caused to excessive cytokine release and cytokine results in Acute Respiratory Distress Syndrome (ARDS) aggravation and tissue damage leading to multi-organ failure and death. Immune complexes signal and trigger a reactive thrombocytosis; in this condition, the platelet count is elevated to maximum, i.e., 350,000/μL to 400,000/μL. If the size of the coronary artery aneurysm is increased, then immunoglobulin A (IgA) also increases; Kawasaki disease also elevates the IgA levels. C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and white blood cell count (WBC) levels should all be raised during the acute stage of Kawasaki Disease. Eosinophilia is common, and platelets get activated, resulting in a reactive thrombocytosis. In Kawasaki Disease, decreased hemoglobin with normocytic normochromic anemia is a common observation.

Severe Kawasaki disease has these symptoms; five or more days of fever, enlargement of lymph nodes in the head and neck up to 1.5 cm, normal size of lymph nodes is >1 cm, the increase in size called cervical lymphadenopathy, oral mucosal changes, bilateral conjunctival injection, and peripheral extremity changes. In the United States, Kawasaki Disease (KD) is the most significant cause of acquired heart disease. The formation of coronary artery aneurysms is the most common consequence of Kawasaki Disease, especially if left untreated. Although the specific mechanism of aneurysm formation is uncertain, it is thought to be linked to immune complexes that cause inflammation. Necrotizing arteritis with neutrophilic responses, subacute or chronic artery inflammation with the migration of various leukocytes to the arterial wall and proliferation of the arterial lumen tissue triggered by inflammation are all proposed pathological processes that lead to coronary aneurysms in Kawasaki Disease. Intravenous Immunoglobulin (IVIG) lowers damage to the epicardium and the risk of coronary artery aneurysms by blocking immune complexes that form in Kawasaki Disease. Inflammation that persists can put a Kawasaki Disease patient at danger.

Intravenous Immunoglobulin (IVIG) and high-dose aspirin are the primary treatments for acute Kawasaki Disease. To reduce the risk of coronary artery lesions, IVIG should be given within ten days of the onset of fever. If a patient has a fever, coronary anomalies, or persistently raised C-reactive protein and erythrocyte sedimentation rate after the 10-day window has passed, they should still be treated with regular IVIG therapy. The administration of IVIG within five days after the commencement of fever has been found to reduce the risk of coronary aneurysms considerably. The use of steroids as a first-line or refractory treatment for Kawasaki Disease has been contentious. In circumstances when IVIG has failed, monoclonal antibodies such as Infliximab and the interleukin-1 receptor antagonist Anakinra have been employed. The high-dose aspirin treatment should be continued until the fever has decreased. If a patient develops a recurrence of Kawasaki Disease or atypical Kawasaki Disease, regular IVIG and aspirin doses should be used. This evaluation does not cover the long-term management of Kawasaki Disease.

**Correspondence to:** Brian Sims, Department of Neonatology, University of Alabama at Birmingham, Alabama, USA, E-mail: dr.simsbrian@gmail.com

**Received:** 08-Apr-2022; Manuscript No. PTCR-22-17624; **Editor assigned**: 11-Apr-2022; PreQC. No. PTCR-22-17624 (PQ); **Reviewed:** 25-Apr-2022; QC. No. PTCR-22-17624; **Revised:** 02-May-2022; Manuscript No. PTCR-22-17624 (R); **Published:** 10-May-2022, DOI: 10.35841/2161-0665.22.12.451

**Citation:** Sims B (2022) An Overview on Kawasaki Disease in Pediatrics. Pediatr Ther. 12: 451.