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The pediatric population under 5 years of age as a group vulnerable to Kawasaki disease: Bibliographic review

Summary

Kawasaki disease is a multisystem involvement, which causes acute and self-limited vasculitis, 80% of cases occur in pediatric patients under 5 years of age, although on rare occasions it can develop in adolescence and adulthood. The age of onset of the pathology is variable, however, the incidence is higher between 18 and 24 months, being children under 5 years of age a highly vulnerable group. In relation to gender, Kawasaki disease preferentially affects male individuals. Signs and symptoms of the disease include high fever that lasts for more than 5 days, which is evident in almost all types of Kawasaki disease, other clinical manifestations include edema, erythema, lymphadenopathy, scaling of hands and feet, cardiac involvement, among others.

Objective: To investigate how Kawasaki disease affects the pediatric population under 5 years of age, through a literature review.

Method: Bibliographic Review

Conclusions: Kawasaki disease is a multisystemic inflammatory disease that affects blood vessels, lymph nodes and mucous cavities, is characterized by the presence of febrile episodes lasting more than 5 days and can trigger coronary heart disease in 25% of patients who suffer from it.

Keywords: Kawasaki, pediatrics, inflammation, blood vessels.

Volume 13 Issue 2 - 2025

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Received: June 20, 2025 | **Published:** July 07, 2025

Introduction

Once Known as mucocutaneous lymph node syndrome, it is a disease with serious complications in pediatric patients.[1] It consists of a multisystemic involvement, which causes acute and self-limited vasculitis, 80% of cases occur in pediatric patients under 5 years of age, although on rare occasions it can develop in adolescence and adulthood.[2,3] Kawasaki disease is endemic to Asia, but cases of the disease have been frequently reported in Japan, South Korea, England, Europe and the United States.[3]

The age of onset of the disease is variable; however, the incidence is higher between 18 and 24 months of age, with children under 5 years of age being a highly vulnerable group. In relation to gender, Kawasaki disease affects males (60.8%) rather than females (39.2%). The risk factors associated with the disease have been estimated in relation to age (children under 5 years of age); sex (it affects mostly males); ethnicity (Asians) and the influence of certain climatic factors (cold) in a preferential manner.[4,5]

Based on the form in which the disease presents itself, 4 clearly defined variants of the disease have been established: classic or typical, incomplete, atypical and resistant to immunoglobulin.[6] Within each of them, the signs and symptoms vary, however, persistent febrile symptoms are common in all variants, in addition, given the inflammatory process at the vascular level, there are usually problems related to cardiac involvement that put the child's life at risk.[7]

Due to the fact that the disease presents similar characteristics to other pathologies, it is important to make a differential diagnosis, for which the anamnesis supported by clinical and imaging tests support the timely diagnosis and prevent it from generating short and long term complications.[2,8] When there is certainty of the disease, it is important the immediate instauration of pharmacological treatment, of which the use of gamma globulin, aspirin and prednisolone have been described as effective therapies for the management of the disease. However, medical surveillance and adequate dosage are important, especially in the case of aspirin due to its side effects (Reye's syndrome) and prednisolone, being a corticosteroid that requires a delicate management adapted to the patient's needs, since their recovery will depend on them.[9,10] In view of the above and taking into consideration the importance of the subject, the objective of this work is: To investigate how Kawasaki disease affects the pediatric population under 5 years of age, by means of a bibliographic review.

Aware of the relevance and quality of the information contained in this document, we are sure that it will serve as a reference guide for future research, and will also allow us to strengthen the scientific knowledge acquired in academic training through scientific updating, which is the basis of professional training, since science advances every day and seeks new ways to improve the quality of life of the population.

Methodology

Kawasaki disease is one of the pathologies that aggravate the state of children's health, so it is important from a scientific point of view to study it and determine which factors are related to it.

Design

The study was structured under a non-experimental design with a qualitative approach, using an analytical type of documentary research. This approach proved to be the most appropriate for the construction of the scientific content presented in this document, due to its adaptability and flexibility to the needs of the research process.

Search strategy

Given the vast amount of information available on Kawasaki disease and with the aim of optimizing available resources, academic meta-search engines and databases such as PubMed, Google Scholar, ELSEVIER, MEDIGRAPH and SCielo were used. This strategy allowed us to define specific search fields related to the research topic, which resulted in obtaining a wide variety of scientific and academic documents, such as research reports, review articles, clinical cases and other relevant articles.

Inclusion and exclusion criteria

In order to meet the needs of the study, inclusion and exclusion criteria were defined as follows:

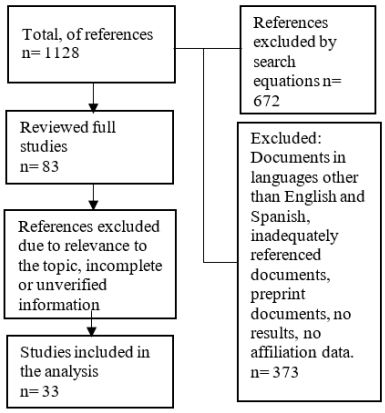
i. Document language: Only documents in English and Spanish were included.

ii. Type of document: Priority was given to review articles, research reports, scientific articles and clinical cases, excluding those that did not meet these requirements, such as editorials, preprints and web pages.

iii. Time of publication: Only documents published in the last 7 years were considered.

Data extraction and analysis

In order to explore the vast field of available information, the search equation "Kawasaki disease" was used in gray search sources, resulting in approximately 1,128 hits. After applying the inclusion criteria, focusing on time of publication and language, 83 comprehensive review papers were selected. For each of these, the abstracts, introductions and conclusions were analyzed to assess their relevance and importance to the study. In addition, the bibliographic references of the selected documents were examined for primary sources of information. Finally, after passing through all the filters and applying the inclusion and exclusion criteria, 33 files were chosen, composed of articles, reviews and reports, which contribute information of high academic and scientific value for the elaboration of this bibliographic review.



Results

Kawasaki disease

Known years ago as mucocutaneous lymph node syndrome, a disease with serious complications in pediatric patients, it was first described in 1967 by pediatrician Tomisaku Kawasaki, from whom the name derives.[1]

Kawasaki disease is a multisystem involvement, which causes acute and self-limited vasculitis, 80% of cases occur in pediatric patients under 5 years of age, although on rare occasions it can develop in adolescence and adulthood.[2,3]

Epidemiology

According to the Rare Diseases and Orphan Drugs Portal (ORPHA), it is a rare pathology that affects small and medium caliber arteries and, when not diagnosed and treated in a timely manner, can lead to the development of coronary artery aneurysms in 25% of patients suffering from the disease.[11]

Kawasaki disease is endemic to Asia, but cases of the disease have been frequently reported in Japan, South Korea, England, Europe and the United States.[3] Since its discovery, this disease has been evidenced in about 60 countries worldwide, however, its prevalence is higher in certain geographical areas such as Japan and in groups of pediatric patients under 5 years of age.[11]

The incidence rates of the disease have hardly changed, so there is no updated information on this in much of the world, for example, in the United States and Europe during 2014 it was known that the incidence rate was 19.1 and 17.6 respectively. On the other hand, in Latin America, the information is practically null, since there is no epidemiological data from the affectation of the disease in these countries, despite the fact that in 2014 the Latin American Network of Kawasaki Disease (REKAMLATINA) was formed, whose purpose is to establish the impact of the disease in this area and propose strategies for diagnosis and timely treatment for this pathology.[7]

The age of onset of Kawasaki disease is variable; however, the incidence is higher between 18 and 24 months of age, with children under 5 years of age being a highly vulnerable group. In relation to gender, Kawasaki disease affects males (60.8%) rather than females (39.2%). [2,12,13]

Geographically, the population of Japan is mostly affected, with a familial recurrence rate of 2.1%, which means that the risk of contracting the disease is 10 times higher than the general population and is increased in twin siblings or children of people who had the disease in childhood.[7,14]

Etiology

Since its discovery, several investigations have tried to establish the origin of the pathology through clinical, immunological, genetic and other studies. However, its etiology has not yet been clearly established, so it has been determined that it is a disease that develops by some type of infectious agent that enters the human organism through the mucous membranes or direct contact, as suggested by studies carried out in Japan, which consider that the pathogenic microorganism is transported by tropospheric winds, without leaving aside the genetic factors of the host.[2,15] Genetic studies aimed at discovering the etiological agent of Kawasaki disease have identified at the biological level some loci involved in inflammation, immune response and cardiovascular status of the patient crossing the disease.[2,16]

Risk Factors

Despite scientific advances, the risk factors that predispose an individual to present the disease have not been completely established; however, three factors closely related to its evolution have been established:

i. **Age:** Classically occurs in children under 5 years of age and therefore have an elevated risk of contracting Kawasaki disease.

ii. **Gender:** The male gender has a greater predisposition to develop the pathology, about 70% of the cases occur in men.

iii. **Ethnicity**: In countries such as Asia where the disease is endemic and in Japan where prevalence rates are high, Kawasaki disease is related to ethnicity.[4,5]

iv. **Climatic conditions:** Several investigations have determined that, in the most affected geographical areas, incidence rates increase in the winter and early spring.[17]

Kawasaki disease classification

Kawasaki disease can take 4 clearly defined forms:

- Classic or typical
- Incomplete
- Atypical
- Immunoglobulin resistant.

Each of them has its own characteristics that are specifically addressed at the time of diagnosis, as the signs and symptoms are specific to each subtype of Kawasaki disease.

Clinical manifestations

Because this is a multisystemic disease, it can affect different parts of the body, and its evolution is divided into three phases:

i. Acute febrile period: Comprises constant variations in body temperature, which may last for 10 days.

ii. Subacute period: This phase lasts from 2 to 4 weeks.

iii. Convalescence phase: Patient's recovery period, in this stage most of the signs and symptoms of the disease gradually disappear, however, about 25% of patients develop critical stages of the disease. [2,8,18]

Depending on each of the phases, the signs and symptoms related to Kawasaki disease include:

iv. Fever: Although in the febrile stage there are temperature fluctuations, not all patients experience this sign, however, in the acute period, all patients report temperatures equal to or higher than 40 °C, whose characteristics are difficult to manage and usually do not respond to antipyretic drug treatments. This febrile stage can last from 5 to 25 days in most cases.[2,19]

v. Oral alterations: Related to fever and the multisystemic inflammatory process, the oral mucosa is highly affected; around 90% of patients report discomfort in the mouth, lips, tongue and gums, which are preferentially evident in the acute phase.[2,7]

vi. Conjunctivitis: Ocular lesions and conjunctivitis is evident in at least 85% of patients, in the case of conjunctivitis this is intense bilateral non-suppurative.[2]

vii. Exanthema: The presence of eruptions on the mucosal surface is usual in this pathology, they have polymorphous aspect, and can be of macula or papule type. The extensor surfaces of the limbs are the places of predilection for these to appear and from there they are distributed to the trunk, in addition, in the perineum the exanthem frequently appear. Usually no vesicles or crusts are observed, it lasts 1 or 2 weeks, and after that they disappear together with the other signs and symptoms of Kawasaki disease. [2,7,11]

viii. Affection in the extremities: The palms of the hands and soles of the feet, are usually affected with florid erythema, sometime later in the second stage of the disease, these body areas begin to desquamate, while in the convalescence phase the so-called Beau's lines become present. [2,20]

ix. Lymphadenopathies: inflammation of the lymph nodes is not as common as fever and ulcers, about 70% of patients experience it, however, at the cervical level, the inflammation of the nodes is unilateral, causing severe discomfort and pain due to the size of the swollen node that can reach 1.5 cm in diameter. Lymphadenopathies usually improve with the passage of time and as the fever decreases. [2,21]

x. Cardiac involvement: One of the most serious and severe complications experienced by at least 25% of patients are cardiac conditions, which aggravate the patient's clinical picture. These range from non-specific electrocardiogram alterations to more serious conditions such as heart murmurs, myocarditis, pericarditis, pericarditis, endocarditis and coronary aneurysms. Due to the clinical picture of the patient, these affectations are discovered after the first month of illness, where thrombosis and aneurysms are evident and the patient's recovery is slow and lasts at least one year, however, in severe cases it can lead to death in 1% to 2% of patients. [2,7,22,23]

xi. Recurrent pharyngitis: Due to the inflammatory process, patients have pain and irritation of the throat that does not disappear completely despite established treatments. [7]

xii. Leukocytosis: As it is an inflammatory process, the immune system is affected reflecting an elevated number of white blood cells in the blood test.

xiii. Abnormal pulmonary interstitial morphology: This is an occasional condition presented by the patient, in which there is abnormality of the pulmonary parenchyma that can lead to diffuse pulmonary fibrosis.

xiv. Cholecystitis: inflammation of the gallbladder, rare.[2,22]

Other clinical manifestations associated with the disease less frequently are: jaundice, hepatitis, migraine, joint pain, hypertension, ptosis. [2,24]

Diagnosis

At the moment there are no specific tests that allow a specific diagnosis of Kawasaki disease, so the diagnosis is based on clinical laboratory tests, as well as imaging studies (echocardiography) based on a correct anamnesis.[6,9,23,25]

Among the laboratory tests, clinical values related to leukocyte count, platelets, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), gamma-glutamyl-transpeptidase, transaminases and bilirubin are elevated, contrary to albumin which reflects low values in severe cases of the disease. Likewise, urine tests, immunological biomarkers, synovial fluid and spinal fluid are essential to determine infectious processes.[19,26,27]

At the same time, at the clinical level, the diagnosis is supported by guidelines and protocols established by recognized health institutions that have conducted research on Kawasaki disease through which they propose specific diagnostic criteria, these correspond to the Japanese Guidelines of the Kawasaki Disease Research Committee and the American Heart Association Guidelines for the Diagnosis of Kawasaki Disease,[7,9] from which other guidelines and protocols have emerged in different countries such as Spain, Argentina and Peru.[19,22]

As can be seen in Table 1, described below.

Based on the criteria set out in these guidelines, the signs and symptoms presented by the patient are assessed for diagnosis and through them the subtypes of Kawasaki disease are determined, as these are variable in each of the stages, so that their correct categorization facilitates the clinical diagnosis and the choice of appropriate therapeutic treatment for each case. [2,7]

Diagnosis in convalescence phase

Sometimes the disease passes without revealing serious signs and symptoms of the pathology, so it is not diagnosed in a timely manner, but later in a routine visit to the pediatrician. Among the classic signs that the patient has gone through Kawasaki disease is the visualization of desquamation on the palms of the hands and soles of the feet, so a proper medical assessment supported by clinical tests will confirm or rule out whether the patient is already in the recovery stage of Kawasaki disease. At the same time, it is essential to perform an echocardiogram immediately in order to start treatment with gamma globulin as soon as possible and thus avoid coronary damage.[19,28]

Table 1 Diagnosis of Kawasaki disease (Ministry of Health, 2021).

Classic or Typical	Fever ≥5 days
	Bilateral non-exudative conjunctivitis
	Erythema on mucous membranes
	Skin rash (red patches on skin, itching, scaling, hives)
	Cervical lymphadenopathy
	Changes in the extremities
	Coronary involvement (15% - 25% of patients)
Incomplete	Fever ≥5 days
	It does not present the same clinical course as classic Kawasaki disease.
Atypical	Fever ≥5 days
	Seizures
	Facial paralysis
	Meningitis - Pneumonia
	Acute abdominal pain, pancreatitis
	Arthritis
	Jaundice
	It does not have the same clinical course as classic Kawasaki disease.
Immunoglobulin resistant	Fever that does not respond to immunoglobulin therapy
	Affects between 10% to 20% of patients.

Differential diagnosis

Since the etiology of Kawasaki disease is not known with certainty and considering that it is an inflammatory disease, it is necessary to differentiate it from other exanthematous pathologies of childhood that may be caused by different microorganisms or direct contact factors that trigger the inflammatory response, therefore the differential diagnosis rules out diseases such as scarlet fever, rheumatoid arthritis (rare in children), Stevens-Johnson syndrome, smallpox, measles, Covid-19, toxic shock syndrome, adenovirus, lupus, toxicoderma, adenovirus, among others.[6,19,20,29]

Treatment

The sooner the diagnosis of the disease is confirmed, the sooner the appropriate treatment can be established in order to reduce the risk of long-term complications, so the initial measures are aimed at controlling the febrile and inflammatory process and thus reduce the risk of cardiac involvement due to Kawasaki disease.[11,23] At the therapeutic level, the treatment of Kawasaki disease is based on:

Gamma globulin administration: It is a type of protein (immunoglobulin), it has the ability to raise antibodies and fight different infectious and inflammatory processes. Its administration is intravenous and has been proven to prevent the development of coronary artery problems because it reduces inflammation in the blood vessels.[6,22,30,31]

Aspirin: Acetylsalicylic acid is a moderate analgesic and anti-inflammatory, its administration in patients with Kawasaki disease has proven to be effective in reducing inflammation and pain, it also has an antipyretic effect that facilitates temperature control so it is usually used in high doses, which after 48 hours of administration are reduced to adequate maintenance doses. It is worth mentioning that several investigations have shown that aspirin can trigger Reye's syndrome, a fatal clinical condition, therefore, its administration in Kawasaki disease should be strictly controlled and under medical supervision.[9,31]

Intravenous prednisolone: This drug corresponds to the corticosteroid group, so its administration in pediatric patients is of delicate use, it is usually used in severe febrile conditions and that have not responded satisfactorily to Gammaglobulin and aspirin therapies, it is suggested doses of 2mg/kg/day intravenously every 8 hours until the febrile process is controlled, once the patient is stabilized, it should be changed to oral administration of the drug until the CRP is normalized and the risk of coronary anomalies is reduced.[7,9,32,33]

Additional post-treatment measures and prognosis

The importance of therapeutic treatment is the control of fever. When this has been achieved, it is important to assess the need to continue with low-dose aspirin administration for a couple of weeks, and in cases of patients with coronary involvement, the treatment time with aspirin may be longer, in order to prevent blood coagulation.[22]

In some cases, patients may contract parallel viral or bacterial diseases (influenza, smallpox, measles, Covid-19), so aspirin should be discontinued and other pharmacological therapies that cause fewer side effects should be considered, as aspirin does in relation to Reye's syndrome.[2,9,19]

Usually, with gamma globulin treatment, the patient's recovery is satisfactory and in less time, but if there are already cardiac complications, recovery is delayed, so clinical and ultrasound follow-up examinations will allow assessing cardiac health between 6 and 8 weeks after the onset of Kawasaki disease and these should be performed 6 months later as a control measure. If the pediatric patient is given intravenous gamma globulin, the common vaccination schedule for viral diseases should be postponed for at least one year, so that gamma globulin will not affect the efficacy of these vaccines.[1,8]

Usually about 90% of patients have a full recovery, the remaining 10% are left with sequelae of the disease which develop at the cardiac level in the coronary arteries giving way to an aneurysm that over time can cause a heart attack, in turn can be affected the myocardium, endocardium, and pericardium many years later. [6,11]

Prevention

Despite advances in the field of science, research related to this pathology shows that there is no currently known preventive measure to deal with Kawasaki disease, so it is rather recommended to be attentive to abnormal signs and symptoms in pediatric patients, especially in those where risk factors (ethnicity, age, sex) are immersed. [7,11]

Discussion

Regarding Kawasaki disease, research carried out by Blasco,[1] Sánchez[2] and Viart,[3] agree that this is a multisystemic pathology originated from aggravating inflammatory processes of the blood vessels, being pediatric patients under 5 years of age those who register the highest frequency of the disease (80% of the cases), making them a highly vulnerable group

Based on the research carried out by Cimaz, et al.[11] and given the low incidence and uniqueness of the disease, it has been classified as a rare disease, whose sequelae related to late diagnosis and treatment can lead to the development of coronary artery aneurysms in 25% of patients.

Epidemiological data available from studies by Viart,[3] Cimaz, et al[11] and Son Newburger,[14] show that the greatest impact of the disease is in Asian countries such as Japan and South Korea; however, cases have been reported in about 60 countries around the world, including England, Europe and the United States.

The literature review conducted by Bonilla et al.[7] developed in 2022, evidences the little epidemiological information on Kawasaki disease worldwide, since the most recent data correspond to 2014 and belong to Europe and USA, at the same time, it concludes that in Latin America very little is known about the disease and its real impact, despite the existence of the Latin American Network of Kawasaki Disease (REKAMLATINA), founded in 2014, since little or nothing has been achieved in recent years.

Research conducted by Sánchez,[2] Butters et al,[12] and Nakamura,[13] on this pathology, agree that the age of onset of Kawasaki disease is variable, however, the incidence is higher in children under 5 years of age, occurring more frequently in males (60% of cases), thus estimating two risk factors: age and gender. Despite the advances in science and technology, the etiology of Kawasaki disease has not yet been clearly established, as confirmed by the documents consulted by Sánchez,[2] Manlhiot et al.[15]and Gómez Rojas,[16] who refer to the suspicion that it is developed by some type of infectious agent that enters the human organism through the mucous membranes or direct contact, This according to the evidence of studies carried out in Japan, where some loci involved in inflammation, immune response and cardiovascular status of the patient who crosses the disease have also been identified at a biological level.

In reference to risk factors, these have been widely addressed by different researchers, who have established that age, gender, ethnicity and climatic conditions play a preponderant role in the development of the pathology, as explained by Gay,[4] Junyan[5] Ozeki,[17] in each of their investigations.

At the same time, the Peruvian MSP[6] has described in the Clinical Practice Guide for the management of Kawasaki disease that it can adopt 4 forms of presentation: classic or typical Kawasaki disease, incomplete, atypical and resistant to immunoglobulin, each with its own characteristics.

Sanchez,[2] Pillasagua[8] and Fuller,[18] through a bibliographic analysis of Kawasaki disease, have established that it goes through 3 phases: acute febrile, subacute and convalescent. At the same time, all of them experience febrile episodes exceeding 40°C which are not easily controlled and can last up to 25 days, as explained by Sanchez[2] and Benot.[19]

Other clinical manifestations of Kawasaki disease are related to oral alterations, which affect 90% of patients as reported by Sanchez[2] and Bonilla.[7] The presence of conjunctivitis, rash, lymphadenopathy, limb involvement, cardiac problems, recurrent pharyngitis, blood abnormalities, pulmonary damage and cholecystitis have been reported in the studies performed, have been recorded in studies by Sánchez,[2] Bonilla et al,[7] Cimaz et al,[11] Baleato et al,[20] Rowley,[21] Sociedad Argentina de Pediatría,[22] Fukasawa et al,[23] and Son et al.[24]

Based on the review of the base literature of this article, the investigations carried out by: Sanchez,[2] MSP,[6] Bonilla, et al,[7] American Heart Association,[9] Benot et al,[19] Sociedad Argentina de Pediatría,[22] Fukazawa et al,[23] Hörl et al,[25] Singh et al,[26] and Galuppo et al,[27] agree that there is no specific evidence to uniquely identify Kawasaki disease, Therefore, general clinical and imaging studies are used to find risk factors, as well as signs and symptoms associated with the disease, from which the diagnosis of the disease can be established. When the diagnosis is late, it is important to determine possible cardiac involvement as explained by Jindal et al.[28]

The MSP,[6] Benot et al,[19] Baleato et al,[20] and Wang et al,[29] consider that the differential diagnosis is important to dismiss the presence of other pathologies that cross with similar clinical features, such as Scarlet fever, rheumatoid arthritis, Stevens-Johnson syndrome, smallpox, measles, Covid-19, toxic shock syndrome, adenovirus, lupus, toxicoderma, adenovirus, among others.

In addition to the above, once the definitive diagnosis has been established, the implementation of therapeutic treatment must be carried out immediately, since the patient's satisfactory evolution will depend to a great extent on it. In this sense, the therapeutic treatments applied to patients with Kawasaki disease consist of the administration of gamma globulin**,** acetylsalicylic acid and intravenous prednisolone, as stipulated in the works consulted by the MSP[6], Bonilla et al,[7] American Heart Association,[9] Cimaz et al,[11] Sociedad Argentina de Pediatría,[22] Fukazawa et al,[23] Lo Newburger,[30] Marchesi et al,[31] Chang Kuo[32] and Phuong et al,[33] the doses, routes of administration and duration will depend on the patient's clinical picture and evolution.

As post-treatment measures, it is considered important to follow up the patient once the disease is over, at least 6 months after it, at the same time, routine immunizations against flu or smallpox should be postponed and exposure to risks that promote the development of bacterial or viral diseases should be avoided, as explained by Sánchez,[2] American Heart Association[9] and Benot et al,[19] so that the child's recovery is complete and long-term complications do not develop.

The prognosis for recovery is favorable in 90% of cases, as estimated by MSP[6] and Cimaz et al,[11] because in the remaining 10% of patients, due to the severity of the disease, the main sequelae are evident at the coronary level, where they can develop serious heart disease such as aneurysms that over time can cause a heart attack, The literature also describes serious damage to the myocardium, endocardium, and pericardium, which are evident years after the disease has passed and "overcome", which suggests that this disease leaves long-term sequelae, being important the control and routine medical surveillance of patients who were diagnosed with Kawasaki disease.

Bonilla et al,[7] and Cimaz et al,[11] estimate that currently there is no prevention mechanism that eliminates or reduces the risk of suffering from Kawasaki disease, since the development of the disease does not depend on changes in behavior or adoption of healthy habits, as its presence is related to aspects such as age, ethnicity and sex, Rather, it is suggested that, based on the risk factors described above, if found in places with high incidence, routine pediatric control and timely assessment of signs and symptoms are the key to prevent the disease from progressing to severe stages, considering this action as a control tool, not a prevention tool.

Citation: Burgos RD, Granda EA. The pediatric population under 5 years of age as a group vulnerable to Kawasaki disease: Bibliographic review. *MOJ Surg.* 2025;13(3):59–64. DOI: 10.15406/mojs.2025.13.00295

Conclusion

Kawasaki disease is a multisystemic inflammatory condition affecting blood vessels, lymph nodes and mucosal cavities. It is characterized by persistent febrile illnesses, lasting more than five days, and can cause coronary alterations in up to 25% of affected patients. Although its etiology remains unknown, several risk factors related to gender, age, ethnicity and certain climatic conditions have been identified.

The predominant symptom of Kawasaki disease is fever, which is present in all subtypes of the disease, including classic, incomplete, atypical and immunoglobulin-resistant. However, according to international protocols and guidelines, thorough evaluation of signs and symptoms, supported by clinical and imaging tests, is crucial to promote accurate diagnosis and timely treatment.

Acknowledgements

None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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