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Case Study

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KAWASAKI DISEASE: CASE OF 12 YEARS OLD MALE PAEDIATRIC PATIENT WITH RARE MULTISYSTEM INFLAMMATORY DISEASE

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ABSTRACT

Kawasaki disease is an acute multisystem inflammatory disease of blood vessels This disease will commonly affects infants and young children. The disease may be characterized by a high fever, inflammation of the mucous membranes of the mouth and throat, a reddish skin rash, and lymphadenopathy. In most children may experience symptoms such as irritability, diarrhea, vomiting, coughing, arthritis, pain and swelling. Other associated abnormalities may include hepatosplenomegaly, aseptic meningitis, otitis media. However, in many cases around 50% the child will experience heart involvement inflammation of arteries that transport blood to heart muscle (coronary arteritis), associated bulging of the walls may develop myocarditis, which is associated with a tachycardia, decreased lower heart chamber functioning , heart involvement may include pericarditis , aortic or mitral valve insufficiency due to the linkage. In severe cases impaired ability of the heart to effectively pump blood to the lungs and the rest of the body. This damages can leads to heart failure. This complication is inflammation of arteries that provide oxygen-rich blood to heart muscle (coronary arteritis) and possible weakening, widening (dilation), and bulging (aneurysms) of affected arterial walls. Dilation and aneurysm formation occur in approximately 3 to 20 %of patients.

In severe cases, complications may include the development of blood clots in the ballooned area with obstruction of blood flow, bursting (rupture) of an aneurysm.

KEYWORDS*:* Kawasaki disease, (Cardiac) MRI, Coronary aneurysm, Cardiac imaging , (IVIG) , coronary artery lesion.

Fig 1: Clinical presentation of disease.

1. INTRODUCTION

Kawasaki disease extremely rare case which most frequently affects children five years of age or younger. In extremely rare cases, Kawasaki disease may occur during adolescence or adulthood. It is an acute

multisystem inflammatory disease of blood vessels and other part of body.

The disease may be characterized by a high fever, inflammation of the mucous membranes of the mouth and throat, reddish skin rash, and lymphadenopathy. Other associated abnormalities may include hepatosplenomegaly, aseptic meningitis, otitis media.

United States is approximately 25/100,000 children under 5 years of age.

in Uk, the **incidence** has been estimated at approximately 8/100,000 children < 5 years of age.

in Japan, the **incidence** has been estimated at approximately 250/100,000 children < 5 years of age.

in India, the **incidence** has been estimated **incidence rate** for KD is 322 per 100,000 children <5 years.

In Islamic Republic of **Iran** has been estimated **incidence rate** for KD is 50 cases presented in children <5 years.

It affects between 8 and 67 per 100,000 people under the age of 5 in world has suffer from Kawasaki disease.

This condition can affect people of any age, but symptoms usually appear under the age of 5. It affects more in men than women(ratio is 2:1). About half of patients experience inflammatory disease of blood vessels and cardiac complication.

In the early 1960s, Japanese pediatrician Tomisaku Kawasaki, who first described it. today this disease is called as Kawasaki disease.

The course of the disease can be divided into three clinical phases

- **acute febrile phase**

This phase is usually lasts for 1 to 2 weeks, is characterized by fever, conjunctival injection, erythema of the oral mucosa, swelling of the hands and feet, rash, cervical adenopathy, aseptic meningitis, diarrhea, and hepatic dysfunction, Coronary arteritis, aneurysms, Myocarditis, pericardial effusion

- **sub acute phase**

The sub acute phase begins when fever, rash, and lymphadenopathy resolve at about one to two weeks after the onset of fever, anorexia, and conjunctival injection persist. Desquamation of the fingers and toes and thrombocytosis are seen during this stage, which lasts about four weeks after the onset of fever. Coronary artery, aneurysms, the risk for sudden death is highest.

- **convalescent stage**

The convalescent stage begins when all clinical signs of illness have disappeared, and continues until the sedimentation rate returns to normal, usually at six to eight weeks after the onset of illness.

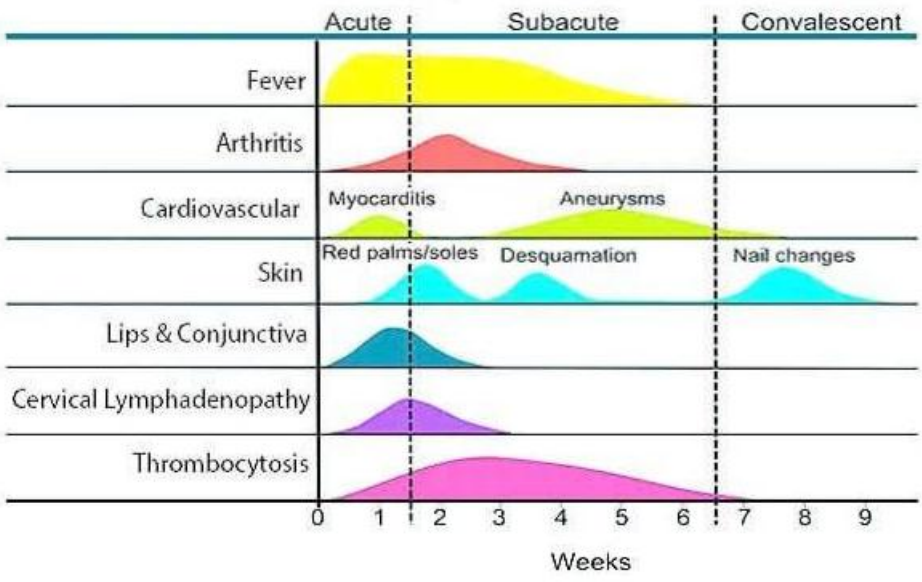

Fig 2: Clinical stages of disease.

2. CASE REPORT

A12 years old male patient, a product of consanguineous marriage, presented with generalized a weakness, Fever. The boy also present chest pain and from 1months back multiple episode of loss of consciousness. The boy had a heart transplant since 1 years back. On physical examination heart sound systolic murmur was present. On X-ray showing aneurysmal enlargement of the coronary arteries.

In MRI scanning Echocardiogram of a giant aneurysm of the main coronary artery and heart muscle was shown. In the blood report analysis there was a abnormality in

WBC count which shows the increase in neutrophil and lymphocytes count.

The patient received antibiotic coarse as first line treatment along with the immune suppressant and Intravenous immunoglobulin (IVIG).

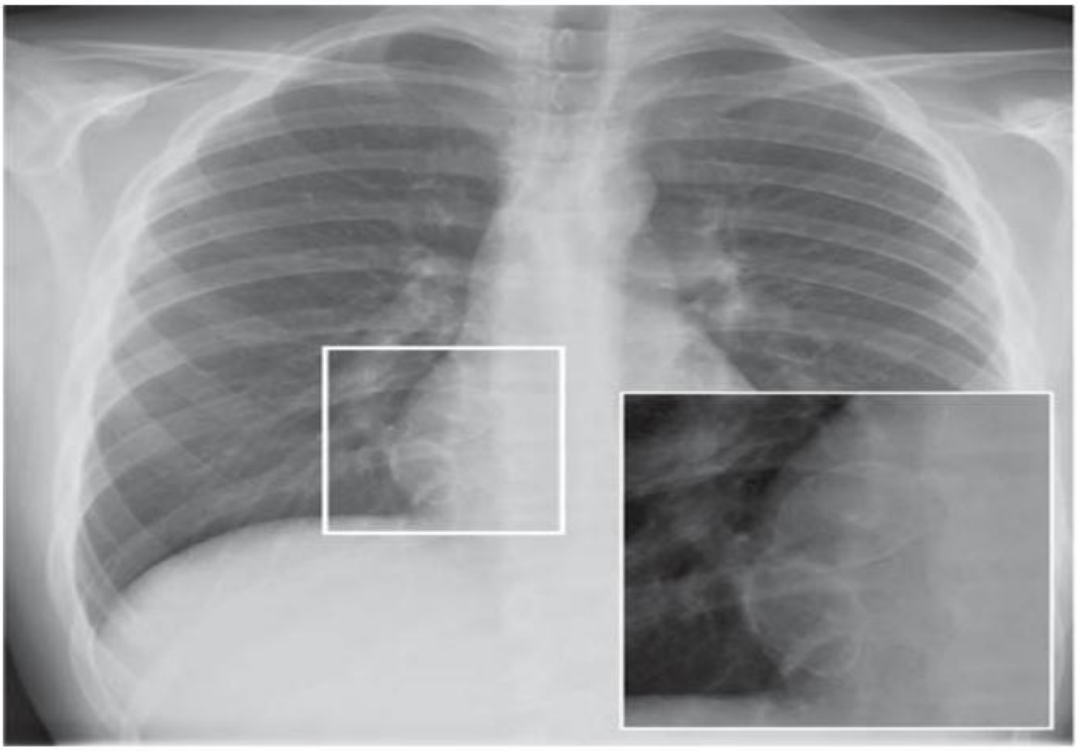

Fig 3: Chest X-ray showing enlarged in heart in child with Kawasaki disease.

3. DISCUSSION

In summary, a 12-year old boy, was diagnosed clinically as a case of Kawasaki disease because of generalized a weakness, Fever and chest pain.

Kawasaki can also affect other parts of the body, including your joints, blood vessels, brain, liver, and ears. A diagnosis of Kawasaki was suspected based on the clinical features, blood test and physical examination. MRI Scan, ECG, X-ray assisted in the diagnosis, Kawasaki syndrome has to be differentiated from other conditions having similar clinical features. The treatment for Kawasaki is essentially include high-dose intravenous immune globulin (IGIV) and high-dose aspirin therapy along with antibiotic therapy. Despite the progressive course of the disease, a correct diagnosis is very important to assist the family with the care taking of the child and genetic counselling should be done to prevent recurrence of the condition in the family.

4. CONCLUSION

Kawasaki disease is an extremely rare multisystem inflammatory disorder, it first described in 1960. It is characterized by The course of the disease can be divided into three clinical phases and the most common sing and symptoms are high fever, inflammation of the mucous membranes of the mouth and throat, a reddish skin rash, and lymphadenopathy, diarrhea, vomiting, coughing, arthritis, pain and swelling, hepatosplenomegaly, aseptic meningitis, otitis media.

The diagnosis is made on the clinical features and by blood test MRI Scan. Xray assisted in the diagnosis, Kawasaki disease has to be differentiated from other conditions having similar clinical features.

Conflict of interest

The authors declare no conflict of interest

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