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Case Report

Arthralgia as an Initial Presentation of Kawasaki Disease: A Case Report

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Abstract
Kawasaki disease is an acute necrotizing vasculitis of medium sized vessels occurring in children aged six months to five years with predisposition to involve coronary arteries. Fever followed by mucous membrane changes are the frequent manifestation of the disease. Arthralgia occurring at the outset of Kawasaki disease is less common which can become challenging in the diagnosis of Kawasaki disease. There are no such cases reported in literature.

Introduction
Kawasaki disease (KD) is an acute febrile vasculitis of unknown etiology primarily occurring in infants and children.[1] The presentation of KD starts with high fever, followed by sequential development of cervical lymphadenopathy, non-purulent conjunctivitis, and polymorphic exanthema. The systemic vasculitis affects small and medium-sized arteries, predominantly the coronary arteries. The advent of intravenous immunoglobulin (IVIG) reduced the incidence of coronary artery abnormalities (CAAs) in patients from 20 to 25% to < 5%. Arthritis is a complication of KD that occurred in one-third of patients during the pre-IVIG era.[2] It is generally recognized as a self-limited and non-deforming condition that is not associated with destruction of articular cartilage.[3] There are very few cases of KD presenting initially with arthralgia.

Case report
We hereby present a case of a three years old male who visited us with arthralgia involving bilateral knees for a week. Child had difficulty in walking and pointed towards the knee most of the time. Child had pain at bilateral knee joint from the onset of illness. However, there was no swelling, warmth or redness at the joint. He developed fever after two days of joint pain for seven days which was acute in onset, continuous, maximum recorded temperature was 104^{0}F, without chills or rigor. Fever didn't respond to antipyretics. It was associated with redness, watering of bilateral eyes with no discharge or pain. He had macular erythematous rashes beginning at the trunk which later progressed to extremities. He had swelling over left side of neck with size approximately 1.8 cm, non tender with no redness or discharge. The arthralgia remained for more than a week and subsided after day nine of illness. On examination, child was febrile (103.9 ^{0}F) irritable had tachycardia (HR = 140 bpm) with normal heart sounds and no murmur. Tongue and lips were red with mild edema over hands. Respiratory and abdominal examination were unremarkable.

Hemogram revealed hemoglobin of 10.1 g / dl, total leukocyte count of 12360 ($N_{75}L_{19}M_5E_1$) and platelet of 2,70,000. CRP and ESR were 96 mg / L and 35 mm / hr respectively. Troponin I was negative and echocardiography showed no coronary

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involvement. Blood chemistry was normal; blood urea of 21, creatinine 0.14 mg / dl. Urinalysis showed sterile pyuria with WBC of 10 - 15 with no growth on urine culture. Blood culture was sterile. Child was started on intravenous immunoglobulin (IVIG) at a dose of 2 g / kg and Aspirin at 80 mg / kg / day. The aspirin was tapered to 5 mg / kg / day at day three of hospital stay after the child was afebrile for 48 hours.

Discussion

The lack of specific laboratory test for early identification of incomplete and atypical cases is one of the main obstacles to beginning treatment early and thereby decreasing the incidence of cardiovascular involvement.[4] Multiple noncardiac clinical findings may be observed in patients with KD. Early identification of the disease and institution of IVIG with aspirin is prudent in reducing coronary artery abnormalities. Arthralgia usually occurs in the subacute phase of KD after seven to 14 days of acute febrile stage.[2] Polyarticular and pauciarticular arthralgia are common in first and second week of illness respectively.[5]

In a case report by Goknar et al, a three year old boy with KD had arthritis with involvement of distal and proximal interphalangeal joint along with bilateral knee joint.[6] This was in contrast to our case which had only arthralgia with no other features of arthritis like swelling and redness around joint and also interphalangeal joints were spared. In a single center retrospective study by Martin et al, out of 63 children with KD, 12.7% developed arthritis during course of illness.[3] The median age of children with arthritis was three years and mean hemoglobin was 11.4 g / dl. Similar to this study where arthritis in KD was not associated with increased risk of coronary involvement, our case had no coronary involvement.

In our case child had pauciarticular arthralgia as initial presentation which is not so common. There are cases with severe arthritis resulting in the diagnosis of systemic-onset juvenile idiopathic arthritis (SoJIA) especially in refractory KD. However, this case responded to intravenous immunoglobulin and aspirin making SoJIA less likely. The arthralgia responded to the usual treatment with IVIG and Aspirin subsiding in nine days without any sequelae.

Conclusions

We should have high index of suspicion for identifying and treating KD in a child presenting initially with arthralgia which can later evolve to having prolonged fever with mucosal and extremity changes. Early onset arthralgia in KD responds to first line therapy with no sequelae.

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