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Case Report

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Kawasaki disease: About a case in Senegal

Papa Souleye Sow*[1], Amadou Sow[1], Djibril Boiro[1], Sofiatou Dieye[1], Guilaye Diagne[2], Khadim Bop[2], Aliou M Coundoul[2], Aminata Mbaye[2], Ndeye F Sow[3], Awa Kane[1], Mohameth Mbodji[2], Serigne T Ndiaye, Modou Gueye[1], Idrissa D Ba[2], Ramatoulaye Diagne[4] and **Ousmane Ndiaye[2]**

[1]*Abass Ndao Hospital center, Dakar, Senegal*

[2]*Albert Royer National Children Hospital, Dakar, Senegal*

[3]*Aristide le Dantec Hospital Center, Senegal*

[4]*Children Hospital of Diamniadio, Senegal*

***Corresponding author**

Papa Souleye Sow, Université Cheikh Anta Diop, Abass Ndao Hospital center, Dakar, Senegal

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Summary

Kawasaki disease is an acute multisystemic vasculitis. We report the case of a 10-month-old boy received for a fever of 38.7° Celsius persisting on usual antipyretics for 10 days and bilateral conjunctivitis. The patient had bilateral serous rhinorrhea, polymorphic rash with diffuse perineal erythema, bilateral angular cheilitis, erythematous throat, plus perioral, periorbital and trunk desquamative lesions. There was microcytic hypochromic anemia at 9.5g/dL, thrombocytosis at 760x103/mm3, hyperleukocytosis at 28.27x103/mm3, positive C-reactive protein at 58 mg/L and an elevated sedimentation rate at 88 mm at the second hour. Aspartate amino transferase acid (AST) was elevated to 30 IU/L and alanine amino transferase acid (ALT) to 45 IU/L. Gamma glutamate transferase (γ-GT) was elevated at 488mg/dl. Cytobacteriological examination of the urine indicated aseptic pyuria. Cardiac Doppler ultrasonography showed low-grade pericarditis without coronary involvement. In the presence of prolonged fever > 5 days: bilateral conjunctivitis, oropharyngeal involvement, polymorphic rash, CRP >30mg/dL, VS >40mm/h, thrombocytosis, elevated transaminases and gamma GT, aseptic pyuria and pericarditis, we retained the diagnosis of Kawasaki disease in its incomplete form. The patient had been treated with acetylsalicylic acid 50mg/kg/24h. The evolution was favorable with stable apyrexia, regression of mucocutaneous lesions and normalization of cardiac ultrasound.

Keywords: Kawasaki; Fever, Child; Skin-Rash; Senegal

Introduction

Kawasaki disease is an acute multisystemic vasculitis. It has been described for the first time in Japon in 1967 by Tomisaku Kawasaki as the « acute febrile adeno-muco-cutaneous » syndrom **[1].** The gravity of this syndrom is due to the complications that are cardiovascular and mostly coronary **[2]**. The diversity of clinical forms (complete, incomplete and atypical forms) makes the diagnosis difficult and based on a body of clinical and biological arguments. In Africa, especially in Senegal, there are few studies and most of them report sporadic cases. We report the case of a child with an incomplete form.

Observation

It is about a 10-months-old boy, with nothing particular in his perinatal history, he had a birth-weight of 2860g, a height of 49 cm, and an Apgar score of 8/10 at the first minute of life. His psychomotor development was normal, his vaccination status was up to date according to the national expanded vaccination program (PEV) and there was a second-degree parental consanguinity. The child was received in consultation for a fever persisting on usual antipyretic for 10 days, associated to cutaneous lesions and bilateral conjunctivitis. At the clinical examination, he had a weight of 8,5kg between -1SD and the median, a height of 73 cm between -1 SD and the median, a cranial perimeter of 45cm, a brachial perimeter of 123mm and a normal weight-to-height ratio (-1DS). The patient showed a 38.7°celsius fever, a regular tachycardia at 122beats/min. The palmar and plantar mucous was pale; the child was fussy and whiny. The patient had bilateral serous rhinorrhea, polymorphic rash with diffuse perineal erythema, a bilateral angular cheilitis, an erythematous throat, plus peri oral, periorbital and trunk desquamative lesions as reported in the **(Figures 1 and 2).** In addition, there was no phytotherapy notion. The tongue's examination was normal, cervical lymph nodes was unaffected. The extremities of the limbs showed no particularity. Biologically, there was a microcytic hypochromic anemia at 9.5g/dL, a thrombocytosis at 760x103/mm3. The child presented a biological inflammatory syndrom with a hyperleukocytosis at 28.27x103/mm3, a positive C-reactive protein at 58 mg/L, serum fibrin at 4, 99 g/L and an elevated sedimentation rate at 88 mm at the second hour. Aspartate amino transferase acid (AST) was elevated to 30 IU/L and alanine amino transferase acid (ALT) to 45 IU/L, serum protein was low at

58mg/L and Gamma glutamate transferase (γ-GT) was elevated to 488mg/dl. A dipstick urinalysis testing revealed a proteinuria with 3 + for the urine protein concentration and a hematuria with 2 +. Cytobacteriological examination of the urine indicated a leukocyturia at 6 x 10^5/$mm^{3,}$ however the culture remained negative and lumbar puncture was normal. HIV and hepatitis serologies was negative, electrocardiogram was normal. The radiology of the thorax (face incidence) was normal. Cardiac Doppler ultrasonography showed low-grade pericarditis with no coronary involvement. In the presence of prolonged fever > 5 days: bilateral conjunctivitis, oropharyngeal involvement, polymorphic rash, CRP >30mg/dL, VS >40mm/h, thrombocytosis, elevated transaminases and gamma GT, aseptic pyuria and pericarditis, we retained the diagnosis of Kawasaki disease in its incomplete form. The patient had been treated with acetylsalicylic acid 50mg/kg/24h, paracetamol 60mg/kg/24h and water intake. The evolution was favorable with stable apyrexia, regression of mucocutaneous lesions and normalization of cardiac ultrasound after 10 days of treatment.

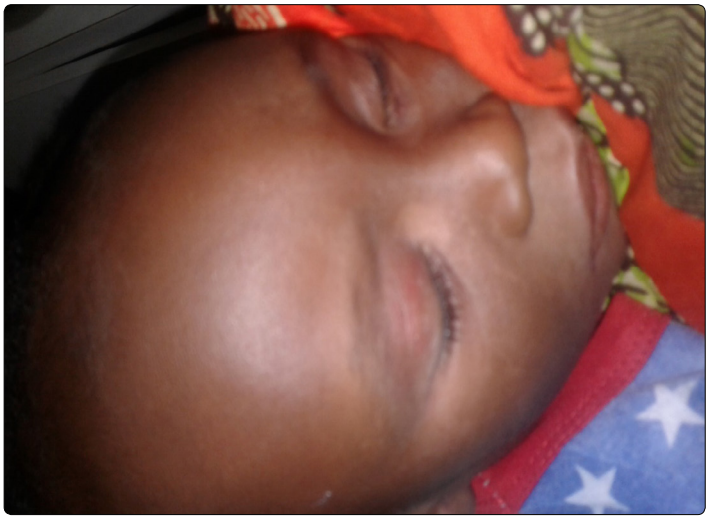

Figure 1: Peri oral and periorbital desquamative lesions

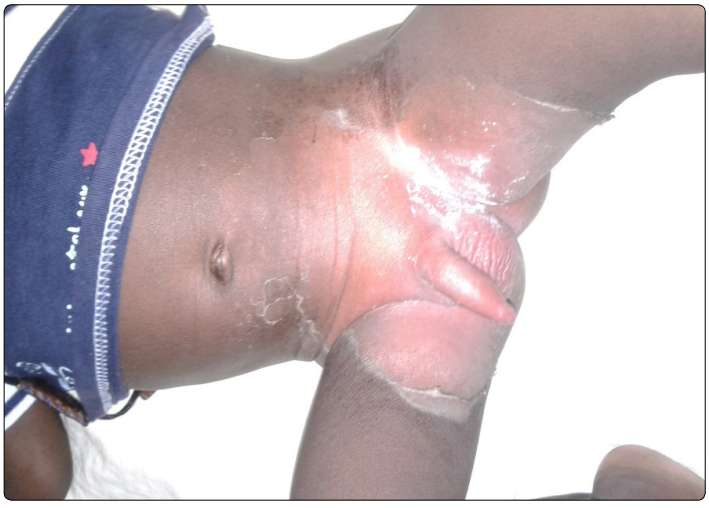

Figure 2: Perineal erythema

Discussion

Kawasaki disease is an acute multisystemic vasculitis mostly affecting infant and young child. Its incidence, beside sporadic cases reported in some countries, is unclear in sub-Saharan Africa **[3, 4].** KD is common among children under 5 years old with a sex ratio in favor of boys **[4, 5].** The incomplete form is more frequent among patients under 12 months and over the age of 5 years **[6].** **W**hich corroborates our case who is 10 months. The diagnosis is based on the American Heart Association (AHA) criteria described in 2004 **[7].** In front of an incomplete form, as our case, the clinical diagnosis is often difficult and is based on ultrasound and biological criteria, in addition to the fever associated to two or three clinical criteria **[7].** High and persistent fever being the principal reason for consultation was also present for our patient **[1, 4, 7, 8]**. Neurologically, our patient was irritable with a normal cerebrospinal fluid test; that irritability had been reported in some studies especially in Ghana and Brazil **[1, 3, 5].** The muco-cutaneous syndrom as described in the Kawasaki disease was present for our patient. However, no adenopathy was found, what had been reported by some other studies as being the less frequent sign anyway **[5, 7, 8].**

Biologically, our patient presented an inflammatory microcytic hypochromic anemia as found in the literature **[4, 9].** The biological inflammatory syndrom is classic in Kawasaki disease and was present for our patient associated to a high thrombocytosis at 760x103/mm3. That thrombocytosis is also described in literature, starting the second week with a progressive return to normal around week 4 to 8 **[4, 7, 10]**. When it comes to the hepatic function we noticed, for our patient, a hepatic cytolysis, elevated Gamma glutamate transferase (γ-GT), just as noticed on other series [**4, 9, 11].** The ALT rise can be associated to a high risk of coronary artery disease. On the urinary level, our patient presented a proteinuria, an aseptic leukocyturia >15000/µl meeting the criteria of the incomplete form according to the American Heart Association **[7].**

Our patient's cardiac echo Doppler was in favor of a pericarditis with no coronary involvement. Cardiac involvement makes the gravity of Kawasaki Disease. The pericarditis' prevalence was almost the same in Merzouk's studies in Morocco and J.C Lega's studies in France **[12].** In numerous series, coronary involvement is the most frequent sign, however it had not been found with our patient. The treatment is based on the association of high doses of polyvalent immunoglobulin 2g/Kg and acetylsalicylic acid **[4, 8, 9, 13-15]**. But the high cost of polyvalent immunoglobulin makes its accessibility difficult in our context. Thus, our patient only received an acetylsalicylic acid-based treatment with a favorable evolution what had been documented in a study made in Ghana **[3].**

Conclusion

Kawasaki disease is a pathology with unclear incidence in our context. It must be evoked in the presence of a persistent fever associated with a mucocutaneous syndrom. His diagnosis often difficult for the incomplete form is based on the AHA criteria and its gravity is related to the cardiac lesions involved.

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