

# Diagnosis And Treatment Of Older Overweight Children With Kawasaki Disease: A Case Report

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## 1. Abstract

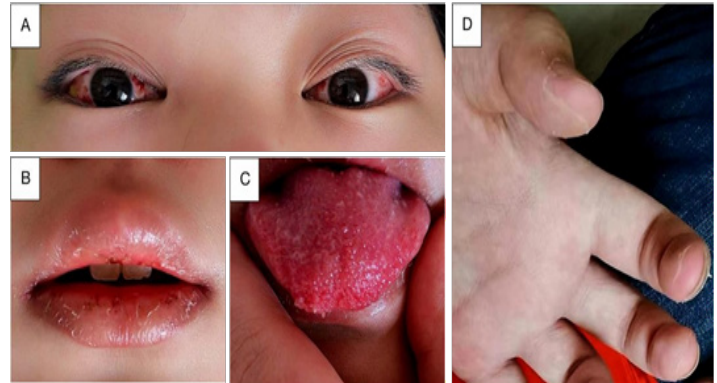
This article reports the successful diagnosis and treatment of a 14-year-old overweight child with Kawasaki disease (KD), hoping that our report of successful treatment can provide a reference for the clinical management of older overweight children with KD.

## 2. Keywords:

Kawasaki Disease, Older Overweight Children, IVIG, Aspirin

## 3. Case Reports

A 14-year-old girl with a height of 181 cm, a weight of 95 kg, and a BMI of 29.0, suffered a rash the second day of the fever and was treated with intravenous antibiotics (Ceftazidime and Ceftriaxone), but the effect was poor. On admission, the patient had been febrile for four days, manifesting recurrent fever, bilateral bulbar conjunctival hyperemia (Fig1 A), dry and fracturing lips (Fig1 B), red strawberry tongue (Fig1 C), left cervical lymphadenopathy (17.6×3.7 mm), red maculopapular rash on the trunk and limbs, hard edema on the hands and feet, and peeling of the fingers. Laboratory investigations revealed a platelet count (PLT):  $73 \times 10^9/L$  (reference value:  $125-350 \times 10^9/L$ ), C-reactive protein (CRP): 206.0 mg/L (reference value: 0-4 mg/L) and D-dimer assay (D-D): 2.60  $\mu\text{g}/\text{mL}$  (reference value: 0-0.3  $\mu\text{g}/\text{mL}$ ) (Table). There was no evidence of an aneurysm in the coronary artery through echocardiography. The patient and her family were in good health and denied any history of inheritance disease. According to clinical diagnosis criteria, with the exception of infections and other autoimmune diseases, the patient was diagnosed with complete Kawasaki disease (KD). [1] (Figure)



**Figure 1:** A, Bilateral bulbar conjunctival hyperemia. B, Dry and cracked lips. C, Red strawberry tongue. D, Characteristic periungual peeling noted on day 14 of illness.

KD is an acute systemic vasculitis involving small and medium vessels that is often complicated by coronary artery lesions. It is more common in children under five years of age, and rarer in older children and adults. [2] The standard treatment regimen recommended by guidelines is to use a single intravenous immunoglobulin (IVIG) 2 g/kg over 10 to 12 hours and combination with aspirin (ASP) (30-50mg/kg/d) administered in 3-4 divided doses. [3,4] The total amount of IVIG increases with weight, and high doses of IVIG administered in a short time can cause serious adverse reactions such as meningitis, thrombotic events, and hemolysis. [5] The patient in this case was 14 years old with overweight; however, there were no specific recommendations for the appropriate IVIG dose for older children with overweight KD. Given the possible risks, we finally decided to administer 30g / d IVIG to children intravenously for two days and combine it with ASP 600g/d, divided into three doses, gradually reducing it to 100 mg/d after three days of stabilisation of the temperature and stopping after six weeks. After treatment, patient symptoms improved rapidly, there were no recurrences of fever, and various indicators improved significantly (Table 1). On day 14 of the disease, the patient's fingers developed a characteristic periungual desquamation (Fig1 D). Follow-up over two months did not show discomfort and echocardiography did not show abnormal changes.

Currently, the treatment options for older overweight children with KD are unclear, and we hope that our successful treatment report will provide a reference for the clinical management of older overweight children with KD.

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Date	CRP (mg/L)	WBC (10 <sup>9</sup> /L)	PLT (10 <sup>9</sup> /L)	ALB (g/L)	D-D (ug/mL)
2023.01.16	206.00	7.20	73.00	/	2.60
2023.01.17	243.80	9.10	76.00	/	/
2023.01.18	202.50	11.20	103.00	/	/
2023.01.19	188.7	6.9	154	29.10	0.46
2023.01.21	36.7	10.8	357	/	/
2023.01.23	13.9	13.8	514	32.00	0.40
2023.02.02	11	7.57	312	40.6	/
2023.02.13	8	8.14	328	/	/

**CRP:** C-reactive protein; **WBC:** white blood cell; **PLT:** platelet count; **ALB:** albumin; **D-D:** D-dimer.

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