Leukocytoclastic Vasculitis Associated with Typhoid Fever

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Abstract

Typhoid fever presents most often with fever, headache and gastrointestinal manifestations. Vascular lesions are one of the rare complications of infections. Many viral and bacterial infections complicate small and medium vessels. Herein, we report a 5.5-year-old Iranian girl with Typhoid fever and cutaneous leukocytoclastic vasculitis which is an unusual presentation of the disease.

Key words: Typhoid fever, Leukocytoclastic vasculitis, Henoch-Schonlein purpura, HSP

Introduction

Typhoid fever is a systemic infection caused by Salmonella typhi, common in developing countries [1,2]. The infection presents most often with fever, headache and gastrointestinal manifestations. Many extraintestinal manifestations such as abdominal abscess, urinary tract infection, osteomyelitis, and meningitis may be seen in Typhoid fever [3]. Vascular lesions are one of the rare complications of infections and some of viral or bacterial infections complicate small and medium vessels [4].

Herein, we report a 5.5-year-old Iranian girl with cutaneous leukocytoclastic vasculitis which is an unusual presentation of Typhoid fever.
Case Report

A 5.5-year-old rural Iranian girl was admitted in Mofid Children’s Hospital with intermittent fever, lymphadenopathy and purpuric skin lesions of both legs. The skin rashes were maculopapular and extended up to the proximal part of lower extremities. A history of Glucose 6 phosphate Dehydrogenase Deficiency was documented in our patient. There was no history of consumption of unpasteurized milk, any unpasteurized milk products, any animal contact or recent use of any medication.

On physical examination, she was blonde and well-nourished (bodyweight 17kg). Axillary temperature was 38°C, heart rate 80/ minute. She was alert, ill but not toxic. She had 3 palpable lymph nodes in the left anterior cervical region (size 0.5 X 1 cm) and 2 lymph nodes (0.5 X 0.5 cm) on the right anterior side of neck; the lymph nodes were severely tender but mobile with no erythema or fluctuation.

On physical examination, the chest (heart and lung) was normal. Spleen was palpable 2 cm. under the left costal margin. There were many purpuric rashes plus urticarial and maculopapular rashes on abdomen and both legs with a mild pitting edema on both feet, (Figure: 1).

Her laboratory data showed Hemoglobin =8.4 g/dl, White blood cell count=12100/m3 (69% neutrophils), Platelet count 753000/m3, Erythrocyte sedimentation rate: 119mm/first hour, CRP= 2+. Peripheral Blood Smear and liver function tests, Wright, Coombs Wright, 2ME, ANA, RF, ANCA, ds-DNA , levels of complements (C3, C4 fractions, CH50), NBT-test, ACE antibody and PPD all were negative or within normal limits. IgG level and IgM were high (6725 mg/dl and 260 mg/dl respectively). Urinalysis demonstrated microscopic hematuria. Serologic tests for HIV, EBV, CMV, HAV, HBV, HCV, Toxoplasma, Borellia, Chlamydia, Mycoplasma, Shigella, Bartonella, and other organisms and test for Malaria were negative.

However, Widal test was positive (1/640) for STyphi OD Ag and her blood culture was positive for Salmonella Typhi.

Chest X Ray and Chest Spiral CT Scan were normal; Sonography and CT Scan of Abdomen showed only splenomegaly without Hepatomegaly or lymph node enlargement.

On Bone Marrow Aspiration, elevation of “megakaryocyte” count was reported. The histopathology finding of lymph nodes biopsy was “Reactive” lymph nodes and the main histopathological finding of skin biopsy was reported as “Leukocytoclastic vasculitis”. In accordance with her clinical findings and results of laboratory data she was diagnosed as having typhoid fever; Intravenous injection of Ceftriaxone was started. She became afebrile and rashes disappeared after 48 hours and 6 days respectively.

Discussion

Skin lesions in salmonella infections are rare and almost always described in the setting of an endocarditis [5]. We report a case of typhoid fever with cutaneous leukocytoclastic vasculitis without endocarditis. Although, the association of infections with vasculitis has been recognized for decades [4,6,7], few reports have been published about the association of vasculitis with salmonella infection [5,8,9,10]. All these reports were from adult patients; we did not find a report about vasculitis with salmonella infection in children. One of the case reports was about a 50-year-old Filipino lady with renal failure after S. Hirschfeldi infection [8]. Another one described leukocytoclastic vasculitis in a young Hispanic man with sickle cell disease [9].

Figure 1. Purpuric skin lesions of both legs
cell anemia and Salmonella typhimurium bacteremia. [10]. Ayatollahi et al have also reported typhoid fever complicated by leucocytoclastic vasculitis in a 31-year-old Iranian man [3]. In all of these studies, immunological tests were negative and the patients had not taken any drug before occurrence of vasculitis. We could isolate the Styphi from the blood culture of our patient. Similar to other reports, splenomegaly was present in our patient but there was no splenic abscess.

**Conclusion**

Diagnosis of cutaneous vasculitis is simple in children but etiological investigation is often difficult, because the infectious origin is only rarely demonstrated. This case report reveals that leucocytoclastic vasculitis may be associated with typhoid fever in children.

**Abbreviations**


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**References**


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