Dear Editor,

we read with interest the article by Tuccio et al. about a pediatric case of petechial rash associated with Parvovirus B19 (PB19) infection and we would like to report our experience on PB19-related atypical exanthems in children and adults [1].

In our series of 120 consecutive children with atypical exanthems seen between 2009 and 2014, 6 of them (5.0%) were related to PB19 infection. They were 4 males and 2 females with an average age of 9 years (range 7-10 years). The slapped cheek sign, the initial manifestation of the fifth disease (erythema infectiosum), was present in almost all patients (5/6) and in one of them it was very fleeting, lasting less than 24 hours. Three patients had a maculopapular exanthema with petechiae involving the trunk and lower limbs (2 cases) or only the legs (1 case). The other patients presented a petechial exanthema exclusively on the lower extremities. Palms and soles were invariably spared.

Only the two children with widespread maculopapular exanthemas complained of a moderate itching.

Enanthems with a macular-petechial pattern were observed in 5 patients (83%) on the soft palate and oropharyngeal pillars. Four children (67%) developed a low grade fever (37.8°C) and one of them had also headache but neither arthralgias nor other prodromal or accompanying symptoms were encountered.

In all patients, laboratory investigations resulted normal and serology by EIA showed PB19 virus-specific IgM antibodies and low but increasing levels of PB19 virus-specific IgM antibodies and low but increasing levels of PB19 virus-specific IgG antibodies, indicating a primary infection. Resolution of the rash and symptoms was obtained in about two weeks.

In our series of 270 consecutive adult patients with atypical exanthemas, PB19 active infections were reported in 14 cases (5.8%), a frequency that is nearly the same observed in children (5.0%) [2, 3]. In 79% of the patients (11/14) the exanthema consisted of maculo-papular lesions primarily on the trunk, neck and extensor surfaces of the extremities. The lesions had some central fading that, in 4 patients, gave them a lacy or reticulated appearance. Purpuric lesions was shared by all patients, when examined carefully, as predominant pattern or interspersed among the maculo-papular lesions. Palms and soles were always spared. Noteworthy, in adult patients we did never find the typical “slapped cheek” appearance that characterizes...
the exanthema in children. Moreover, two adult patients (14%) had a periflexural involvement with an asymmetrical distribution diagnosed as “unilateral laterothoracic exanthem” (ULE) and one of them had also hepatitis due to PB19 infection [2, 4]. The ULE has rarely been reported in children with PB19 infection [5, 6].

Enanthem was observed in 71% of the adult patients, their most frequent pattern being maculopapular with petechiae whereas it was present in all but one of our children.

Regarding the systemic symptoms, 79% of the adults developed diffuse arthralgias and among them, we identified a case of remitting seronegative symmetrical synovitis with pitting edema (RS3PE), that occurred as an erythematous-papular-purpuric eruption on the trunk and extremities [2]. RS3PE is a rare syndrome presenting with acute symmetrical synovitis of the wrists, carpal joints and fingers with pain, swelling and pitting edema of the dorsa of the hands (“boxing-glove hand”) and/or feet. The inflammatory indexes are always elevated, but the rheumatoid factor is negative. The syndrome may be idiopathic or associated with neurologic disorders, malignancies, connective tissue diseases and infectious agents like PB19 [7]. None of our PB19 pediatric patients developed arthralgias and RS3PE has never been reported in children.

A low grade fever was present in 67% of children whereas it has never been reported in adults [2]. Laboratory investigations, especially inflammatory indexes and liver enzymes, may be altered in adult patients whereas they always resulted normal in our children [4, 7].

Serology disclosed PB19 IgM antibodies in all our children who experienced a primary infection. Conversely, the specific IgM antibodies were detected in 86% of adult patients and detection of B19 DNA in serum by polymerase chain reaction (PCR) in 79% of them. Noteworthy, in adults, even in immunocompetent persons, a PB19 persistent infection in the bone marrow and low plasma levels of DNA has been reported several years after the primary infection focusing on the possibility of viral reactivation.

In conclusion, the PB19 active infection in children, that is usually a primary infection, may cause either the typical fifth disease or atypical exanthems, presenting with a petechial pattern and petechial exanthems, usually with negligible systemic symptoms. On the contrary, in adult patients, PB19 active infection is commonly due to a viral reactivation rather than a primary infection, therefore it is useful to study not only serology but also PB19 serum viremia, that is a marker of active infection. Moreover, also in adults, PB19 infection may present with an atypical exanthem with purpuric and maculo-papular lesions often associated with maculo-papular-petechial exanthems and arthralgias.

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■ REFERENCES