

Acute localized exanthem due to Coxsackievirus A4

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SUMMARY

Enteroviruses are the leading cause of exanthems in children, especially during summer and autumn. Enterovirus infections may occur in epidemics or small outbreaks. A 30-year-old woman presented with a three-day history of an erythematous maculopapular skin rash with petechiae localized exclusively under the nipple of the right breast. The skin eruption was associated with an erythematous-petechial enanthem. The patient complained of low-grade fever, headache, asthenia, sore throat and arthromyalgias. IgM (1:128) and IgG (1:640) antibodies against Coxsackievirus A4 were detected by the virus neutralization test. Reverse transcriptase real time polymerase chain reaction (PCR) assay detected enterovirus RNA in the patient's

plasma and faeces. Diagnosis of an acute localized exanthem due to Coxsackievirus A4 was performed. Skin lesions improved in seven days and completely cleared in two weeks without any systemic or topical treatment. Physicians should be aware of the possibility that enteroviruses may determine localized skin eruptions in addition to hand-foot-mouth disease and atypical exanthems. Viral infections should be considered in the differential diagnosis of localized dermatitis especially when the skin eruption is associated with enanthems and with systemic symptoms.

Keywords: coxsackieviruses; viral infection, skin eruption.

INTRODUCTION

Enteroviruses are the leading cause of exanthems in children, especially during summer and fall. Enteroviruses infections may occur in epidemics or small outbreaks [1]. There is a marked variation in the clinical expression of a viral infection: the same virus may cause a different pattern of exanthem during the same epidemic and even in the same patient [2, 3].

CASE REPORT

A 30-year-old girl presented us with a 3 days history of skin eruption, low-grade fever (37,4° C), headache, asthenia, sore throat and arthromyal-

gias. The patient denied drugs intake nor previous topical treatments.

Physical examination of the entire skin surface revealed an erythematous maculo-papular skin rash with petechiae localized exclusively under the nipple of the right breast, involving the inframammary fold (Figure 1 A, B). Examination of the oral mucosa revealed an enanthem with an erythematous-petechial pattern. Bilateral, tender, enlarged, cervical lymph nodes were palpable and there was no hepatosplenomegaly. The auscultation of heart and lungs did not detect pathological sounds.

Laboratory investigations, including anti-streptolysin-O titer and total IgE antibodies levels, resulted within normal ranges. IgM and IgG antibodies against Epstein-Barr virus (EBV), cytomegalovirus, echovirus, adenovirus, parvovirus B19, rubella and toxoplasma were negative. IgM (1:128) and IgG (1:640) antibodies against Coxsackievirus A4 were detected by the virus neutralization test. Moreover, the reverse transcriptase real time polymerase chain reaction (PCR) assay

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Figure 1 - A) Erythematous maculo-papular lesion with petechiae on the breast; B) Erythematato-vesicular lesions on the soft palate with sparse petechiae; C) Resolution of the lesion fifteen days after the first visit.

targeting the 5' untranslated genome region showed Enterovirus RNA in the patient's plasma and feces during the acute eruption. Human herpesviruses -6 and -7 plasma viremia performed by calibrated quantitative real time PCR, as previously described, was negative [4]. Skin lesions improved in seven days and completely cleared in two weeks without systemic or topical treatment (Figure 1 C). A serum sample taken two months after resolution of the skin eruption showed a decreased titer of Coxsackievirus A4 IgG (1:160) whereas Coxsackievirus A4 IgM antibodies were negative. Allergy tests (skin prick and patch test) performed after healing were negative, ruling out the possibility of an allergic dermatitis. Consequently, a diagnosis of acute localized exanthem due to Coxsackievirus A4 was performed.

■ DISCUSSION

Enteroviruses inhabit the human alimentary tract and leave the host through throat secretions and feces; infection of the new host is acquired through oral cavity. Acquiring an Enterovirus infection may determine maculopapular and/or vesicular skin rash or hand-foot-mouth disease, often associated with oral lesions and systemic symptoms. Fever, upper-respiratory symptoms and, rarely, aseptic meningitis and neurologic involvement can occur, simultaneously or preceding the skin lesions [1,5,6]. Our patient is the first described case of localized skin eruption related to Coxsackievirus A4. Coxsackieviruses may cause diffuse exanthems with maculopapular (mainly Coxsack-

ieviruses A9 and B5) or vesicular (mainly A4, A9 and A12) pattern [1, 2, 5, 6]. The maculopapular eruption can progress, especially in case of A4 infection, becoming vesicular and the vesicular lesions, often yellowish and opaque, may occur in crops, mimicking bug bites [2]. Usually, the skin lesions symmetrically involve the trunks and very rarely cause a localized eruption. Indeed, it is well known that varicella zoster, but also other viruses, has tendency to photodistribution or tropism for inflamed skin [7, 8]. However, even in such circumstances the skin eruption spreads to other areas. In literature, it has been described a handful of viral exanthems that remain localized to a single cutaneous area for the entire course of the infection. Yoshida et al. reported five children who exhibited an exclusively papular facial rash that was diagnosed as Gianotti-Crosti syndrome due to EBV [9]. Recently, we described the case of a patient with a maculopapular symmetric skin eruption localized on the buttocks due to Echovirus 9 infection [10].

To our knowledge, the patient presented herein is the first case of localized viral exanthem due to Coxsackievirus A4. Possibly, these localized eruptions are underestimated because confused with other diseases. Indeed, in case of localized skin eruptions, the differential diagnoses include insect bites, drug hypersensitivity or contact dermatitis [1,10].

Finally, physicians should be aware of the possibility for Enteroviruses to cause localized skin eruptions in addition to the hand-foot-mouth disease and to the atypical exanthems. Viral infections should be considered in the differential diagnosis

of localized dermatitis especially when the skin eruption is associated with exanthems and with systemic symptoms [1,2]. Indeed, to make a correct etiological diagnosis is crucial for both the patient and for community concerning issues, such as time off school and risk in pregnancy and immunocompromised individuals [1,2,11,12].

Conflict of interest

None

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