

Exanthema Subitum and Redness at a BCG Inoculation Site: An Additional Clinical Evidence

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Recently, we reported a patient with exanthema subitum, caused by human herpes virus type 6, who showed redness at a Bacillus Calmette-Guerin (BCG) inoculation site [1]. Here, we report additional cases with exanthema subitum who also had redness at a BCG inoculation site.

Case 1: A 10-month-old boy developed a high fever, above 39°C, with no other symptom, including none suggestive of Kawasaki Disease (KD), such as non-exudative conjunctivitis, oral findings, extremity changes, or obvious cervical lymphadenopathy. On the next day, his mother brought him to a pediatric clinic, where a blood evaluation for inflammation showed a normal white blood cell count and normal C-reactive protein

level. Three days after onset, when his fever had started to regress, he showed redness at a BCG inoculation site, as is typically seen in KD. However, again, no other symptom suggesting KD was seen. The peculiar skin symptoms disappeared without desquamation spontaneously, followed by the appearance of a non-specific skin eruption, the course of which was consistent with exanthema subitum infection.

Case 2: A 15-month-old boy developed a high fever, above 39°C. He visited a hospital because of persisting fever at the day 4 with following symptoms, including non-exudative conjunctivitis, redness of lip and tongue, and eruption in the body with redness of BCG, which was associated with subtle cervical lymphadenopathy and absence of edematous changes in extremities. At this time, various investigations including blood examinations were normal. His fever started to return to base line at the day of four before intervention. His clinical feature could be explained with the course of exanthema subitum. He recovered well with disappearance of redness of BCG site without desquamation.

These experiences provided confirmatory evidence that redness at a BCG inoculation site can occur in exanthema subitum. It is curious that the

current cases differed from the previously-reported case with respect to the timing of skin symptom appearance: skin symptoms appeared on the 3rd day of a 3-day fever course and the 4th day of a 4-day fever course in the cases 1 and 2 respectively, in contrast, on the 4th day of a 7-day fever course in the previous case. The current cases did not show skin crusting at the BCG site, whereas the previous case did. Occurrence of the skin change implies presence of an underlying common mechanism, like immunological change in the host [1]. However, the clinical variability of skin feature at the BCG site between the cases suggests that detail of mechanisms may vary.

Only an anecdotal report, which was written with Japanese, implied that HHV6 might cause a change of BCG inoculation site [2]. To our best knowledge, however, no other reports have been published but ours [1]. Weinstein described that KD and BCG vaccination are both more common in Japan, which may be good background for physician in Japan to recognize peculiar relationship between exanthema subitum infection and BCG change [3]. We believe the author's description would correctly indicate the reason why reports treating this topic have been mainly published from Japan.

There are several investigators reporting viral agents, such as Cytomegalovirus (CMV) infection, could cause KD-like symptoms [4, 5]. The authors insisted that vasculitis caused by CMV could explain various cutaneous symptoms [5]. Unfortunately, although change of BCG site was

not reported and discussed, we believe that further case accumulation may be crucial to shed light on an as-yet unknown mechanism for the occurrence of a rare skin symptom in a common disease, exanthema subitum. We also believe that this paper as well as ours' previous paper would facilitate prevalence of knowledge of this peculiar condition which would connect exanthema subitum and change of BCG site.

References

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