

11. SKIN & MUSCULOSKELETAL SYSTEM

11.1 Introduction

Exanthem subitum (ES, roseola infantum) was the first disease described following primary HHV-6 infection. Although it is commonly thought to be caused by HHV-6B only, we have seen 3 children with ES and with HHV-6A infection. In addition, non-specific exanthematous rash can accompany primary and non-primary HHV-6 infections such as febrile seizures in infants, EBV-negative infectious mononucleosis or in allograft recipients. In the latter, they tend to occur more frequently in bone marrow grafting and HHV-6 infection where it must be distinguished from skin eruptions in graft-versus-host disease (GVHD). HHV-6 may even support the development of GVHD.

Drug induced hypersensitivity syndromes (DRESS) causing various kinds of rashes with eosinophilia were mentioned in Chapter 4 (systemic reactions).

Tung Chuh and colleagues reported of two children with infantile papular acrodermatitis (Gianotti-Crosti syndrome) and increased HHV-6 DNA loads while other viruses (EBV, HBV) were not shown in these cases.

HHV-6 reactivations can be observed in various collagen vascular diseases (e.g. lupus erythematosus, scleroderma), and HHV-6 has been isolated from blood lymphocytes of these patients. It appears though that HHV-6 reactivated and persists during the course of the diseases and is not considered a causal agent. It may nevertheless contribute to the disturbed immune response in these patients and to certain clinical symptoms.

Active HHV-6 infections can occasionally be found in certain other dermatological disorders such

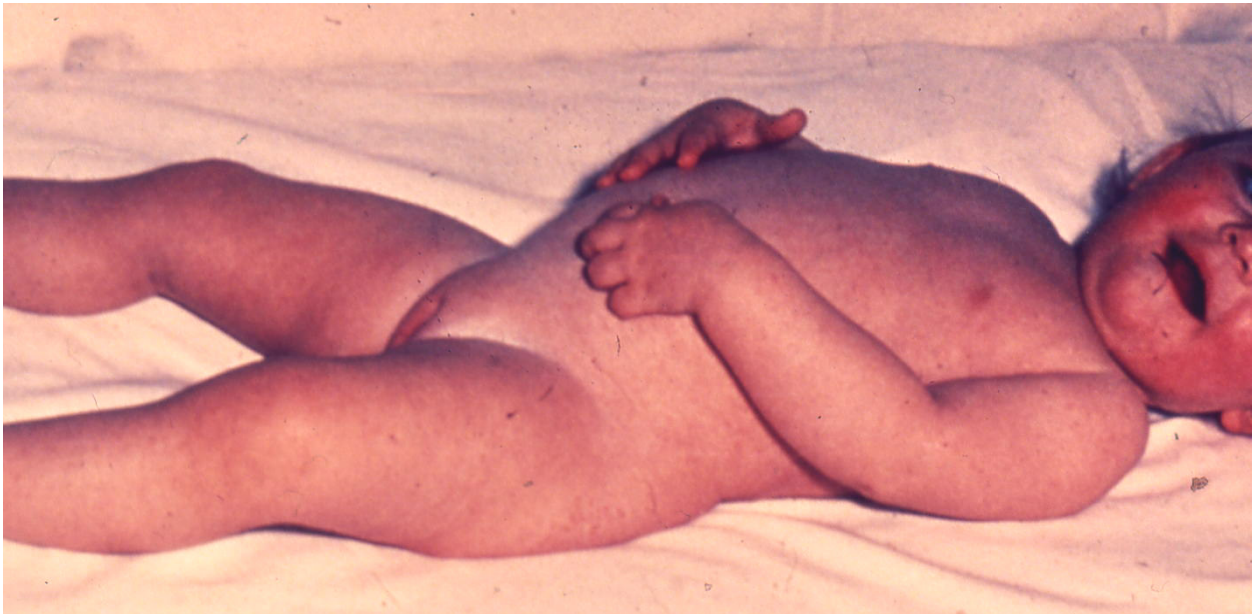
able to demonstrate extensive HHV-6 p41 antigen in sweat glands in the dermis. **Table 7** summarizes the possible associations of HHV-6 and skin diseases.

Pathologic Entity	Patient	Immune Status	HHV-6 Testing
Exanthem subitum	children	nl	serology, virus isolation
Other febrile rashes	children	nl	serology, virus isolation
exanthema in DRESS	adults, children	drug allergies	serology
non-specific rashes	children, adults	infect, mononucleosis	serology
GVH and GVH-like rash	children, adults	BMTx	serology, virus isolation
papulomacular rash	children	Gianotti-Crosti syndrome	serology
SLE, PSS	adults	autoimmune	serology, virus isolation
systemic panniculitis	adult	nl	serology, IHC

Table 7: Summary of skin disorders in active HHV-6 infection. Abbreviations: nl = normal; GVH = graft-versus-host reaction; BMTx = bone marrow transplantation; SLE = systemic lupus erythematosus; PSS = primary systemic sclerosis (scleroderma); IHC = immunohistochemistry.

11.2 Figures

(see also Chapter 4: Systemic Reactions)

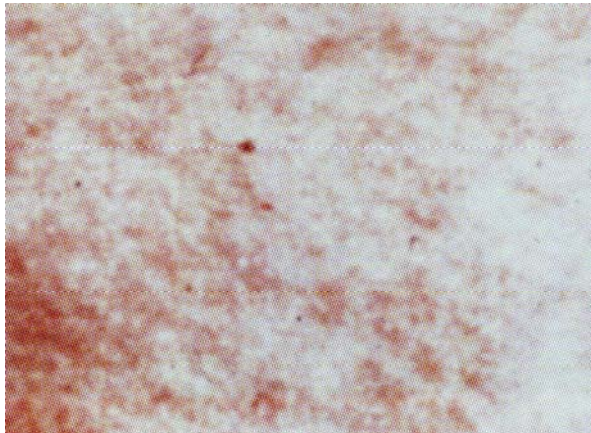


HHV-6A positive child with exanthema subitum

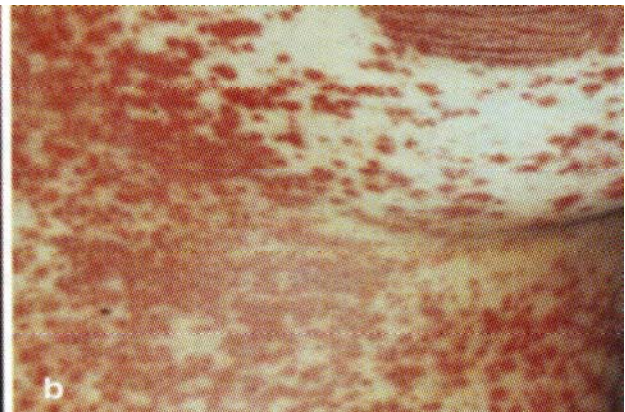


Allergic exanths in patients with active HHV-6 and DRESS (drug induced hypersensitivity syndromes)

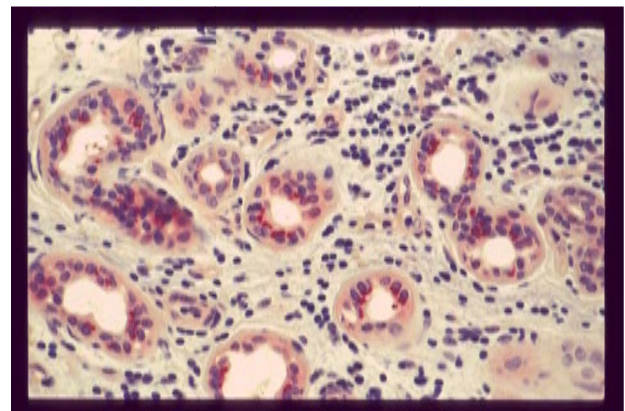
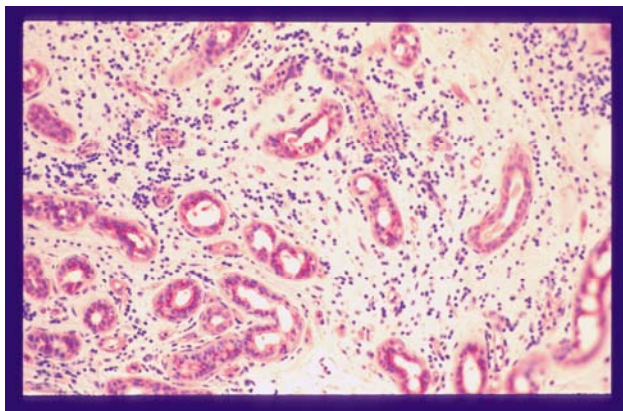




Exanthema in EBV-negative HHV-6-positive acute infectious mononucleosis (left) and in patient with chronic fatigue syndrome (right).



Exanthema in HHV-6 positive patient with bone marrow allotransplant without graft take (left) and with graft versus host reaction (right)



Immunohistochemistry of sweat glands from 21 years old athlete suffering from persistent active HHV-6, fatigue, systemic panniculitis and weight loss. Glandular cells are positive for HHV-6 antigens, both gp110/60 (here) and p41.

11.3 Further Reading

Kikuta H. Human herpesvirus-6 (HHV-6) and exanthem subitum. Chapter 11 in: Ablashi DV, Krueger GRF, Salahuddin SZ (eds.) Human Herpesvirus-6, 1st edition. Elsevier Science Publ, Amsterdam, 1992

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