BACKGROUND AND OBJECTIVE: Palmoplantar vesicles in children have various underlying causes, requiring different therapies. We evaluated the most common underlying diseases and determined simple criteria for differentiation. PATIENTS/METHODS: Within a two years period all children up to 14 years of age who presented with acral vesicles were included in this study. RESULTS: The most common causes of acral vesicles in a group of 32 patients, were dyshidrotic eczema with (n=11) or without atopic diathesis (n=11) and scabies (n=7). Rarely, the cause of vesicular lesion was tinea (n=2) or infantile acropustulosis (n=1). While dyshidrotic eczema was a disease of late childhood, palmoplantar lesions caused by scabies developed in younger children up to the age of 4 years. Scabies in contrast to infantile acropustulosis tend to present with more generalized lesions, not being restricted to acral location. Dyshidrotic eczema revealed lesions bilaterally and in case of atopy, additional body areas were involved. Unilateral presentation was a clue for tinea. CONCLUSIONS: Acral vesicles in childhood can be diagnostically discriminated by the age of the patient and the distribution of the lesions.