

3. That smallpox alone invades the palms and soles. It is true that smallpox almost always invades the palms or soles, or both, but chicken-pox not infrequently shows one or more palmar or plantar lesions.

4. That smallpox alone presents lesions in the mouth. Almost every case of chicken-pox shows some mouth lesions.

5. That smallpox lesions are umbilicated (dimpled), while chicken-pox lesions are not. This last statement might be made almost without reservation, if confined strictly to the *vesicles* of the two diseases. But the umbilication of the smallpox vesicle disappears on pustulation (perhaps by liquefaction of the restraining bands which are supposed to produce the "dimple"), while the subsequent drying out of the pustule reproduces a pseudo-umbilication in the late pustular stage. The chicken-pox vesicle, being swept off or broken, leaves the slightly pitted summit of the papular base of the vesicle exposed. On drying, and especially after crusting, the lesion thus evolved often presents a certain dimple, sometimes mistaken for umbilication. This "umbilication" is wholly different in stage, cause, and structural features from the true umbilication of the smallpox vesicle, and should never be confused with it. It is not even analogous to the secondary umbilication of smallpox, for in the latter the epithelium covering the pustule is still intact, although dry.* Occasionally, one or more chicken-pox vesicles, at an early stage, may show a light dimpling, or even umbilication. A diagnosis should never be based on the condition of one or two lesions, but on the prevalent type. I have seen generalized vaccinia, developing eight days after vaccination, diagnosed by high authority as smallpox, and by other high authority as chicken-pox, both errors depending on attaching too much importance to the peculiar character of one or more lesions, while overlooking the predominant characteristics of the predominant type.

Occasionally chicken-pox vesicles of the forehead and especially of the palms or soles, may be found more deeply seated or having over them a tougher epidermal covering than usual. The only lesson of this fact is, that the lesions of the face, palms, and soles should not be used for the testing of the differential points.

Differential Diagnosis of Severe Smallpox, Mild Smallpox, and Chicken-pox

The case of SMALLPOX will show:—

*It is stated by J. M. Armstrong that smallpox *papules* under moderate magnification show umbilication also.