

smallpox? There are (1) the distribution of the eruption; (2) the shape of the vesicles; (3) the rate of growth of the vesicles; and (4) the unilocular character of the vesicles of chickenpox as compared to the multilocular nature of the vesicles of smallpox.

From what I have just said it will be noted that the distribution of the eruption of chickenpox is, as a rule, the opposite of that of smallpox. In shape some of the vesicles of chickenpox are elongated or elliptical; in smallpox the majority of the vesicles are circular. The typical vesicles of chickenpox attain their full growth in a few hours and are then dome-shaped, distended with fluid, transparent, and they collapse on being transfixed. In smallpox, whether in vaccinated or unvaccinated subjects, the vesicles do not attain their full size on the first day of the eruption, and that is a fact of crucial importance in the differential diagnosis of the two diseases. Observation of the eruption on the face, the arms, and the hands only should never be relied upon for the diagnosis of chickenpox, for upon those parts the eruption simulates that of smallpox closely, and very many errors in diagnosis have been made by so limiting the observation. There should be no failure to examine closely the whole eruption.

Though statements are made to the effect that the vesicles of chickenpox, when at their full growth and distended with serum, show depressed centres, just like smallpox vesicles, this is not the case. The unruptured chickenpox vesicles are not depressed in the centre, but the ruptured vesicles may be. The chickenpox vesicle ruptures naturally or forcibly by scratching or friction, a portion of its contents escapes, and it collapses centrally. In the centre a tiny scab of dried serum forms, occluding the opening and preventing the further escape of serum. It is then that the ruptured vesicle shows a depressed centre, but on close examination a small dried scab in the centre, showing that the vesicle has ruptured, will be found. This ruptured vesicle may be noted within twelve hours of the appearance of the eruption. I have only once seen an unruptured vesicle of chickenpox with a depressed centre, and the cause of the depression of that particular vesicle was that in its centre there was a thick long hair—a small mole-hair, in fact—and the epidermis forming the envelope of the vessel was held down by the hair follicle, thus causing a depression. The vesicle was situated on the abdomen.

Frequent mistakes are made in diagnosing smallpox in unvaccinated children as chickenpox, such mistakes often resulting in outbreaks of smallpox. If regard be had to the differential diagnostic points that I have endeavored to emphasize, no such mistake should occur.

*Measles.*—Confluent smallpox on the first or second day of