

The unvaccinated yielded, in proportion, 30 times as many cases and about 180 times as many deaths as did the vaccinated.

Clinical Types of Smallpox

Smallpox (variola) is one disease whatever its degree of severity. According to circumstances (the individual resistance of the particular patient, the individual virulence of the particular germ, and the size, probably also the frequency, of the dose) smallpox may affect different patients with different degrees of severity. Thus arise certain clinical types, with many degrees in each:

(a) Discrete smallpox, i.e., with the individual lesions well separated.

(b) Confluent smallpox, i.e., having the lesions fused together.

Most cases of smallpox show both discrete and confluent lesions. These terms are therefore relative, a discrete case usually showing some confluence and a confluent case usually showing some discrete lesions.

(c) Hemorrhagic smallpox, i.e., accompanied by hemorrhages into the skin. This is the type which is often called "black smallpox." Minor capillary hemorrhages are not infrequent in the severe types of smallpox and are usually unnoticed or disregarded. The term hemorrhagic is therefore also relative. The most striking form of hemorrhagic smallpox is that in which hemorrhages precede the eruption, death occurring promptly. Strictly speaking, these cases are *sine eruptione*, but only because the patient dies before the eruption has time to appear. The term *sine eruptione* is, in practice, restricted to cases in which the eruption fails to appear despite survival beyond the prodromal stage.

(d) Varioloid, i.e., smallpox modified as regards clinical symptoms by vaccination. Such modification occurs, first, when the absolute protection afforded by recent successful vaccination has partially run out, as it is likely to do after five to seven years from the date of vaccination, and secondly, when an unvaccinated person exposed to smallpox is vaccinated during the incubation period. If less than three days have elapsed since exposure, a successful "take" usually prevents an attack of smallpox entirely. If more than three but less than ten days have elapsed since exposure, a light attack (varioloid) is likely to supervene. If over ten days have elapsed, vaccination is unlikely to have any marked effect in modifying the subsequent attack.

Vaccination rarely takes in smallpox, if performed after the fever begins, and practically never, if performed after the eruption

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