ABSTRACT OF CURRENT LITERATURE

Acute Infection


Incidence.—One seldom sees a series of cases of generalized vaccinia unless a large number of persons have been vaccinated against smallpox. Attack rates of generalized vaccinia appear to depend more upon exposure of persons with eczema to vaccine virus than upon the number of persons vaccinated.

Contributing Factors.—Eleven of our patients gave a history of infantile atopic eczema. One patient receiving antisyphilitic therapy had an arsenical dermatitis. Two others had concurrent dermatoses, eczemoid in character but not specifically classified, while in the last patient the vaccinia was superimposed on varicella.

Diagnosis.—The clinical diagnosis of generalized vaccinia lesions was usually made without difficulty. All case histories included some concurrent skin disease, a recent smallpox vaccination either in the patient or his close contacts, and a negative history of exposure to variola. The diagnostic methods of choice are the Paul test, the complement fixation test, and the neutralization test.

Differential Diagnosis.—In the differential diagnosis, one must consider impetigo, variola, erythema multiforme bullosa, post-vaccinal urticarial reactions, and multiple vaccination (complications of vaccination which we observed). Other diseases that may be confused with generalized vaccinia include herpes zoster and pustular syphilis.

In impetigo, the lesions are seldom umbilicated and fever is not a usual accompaniment. Variola may occur within the first five to six days after a vaccination, and diagnosis in most cases must rest upon history and clinical manifestations. There was seldom a history of prodromata in the patients with generalized vaccinia whom we observed, while the eruption of variola is characteristically preceded by headache, backache, and malaise. The early lesions of a generalized vaccinial infection are full-blown umbilicated vesicles, while those of variola are firm, salmon-pink nodules, which only later develop frank vesiculation. We observed no cases of generalized vaccinia lesions on the mucous membranes, a typical site for variola lesions. Continuation of fever after the appearance of the eruption occurs regularly in generalized vaccinia though not in variola. Erythema multiforme bullosa and urticaria-like lesions may occur following vaccination, but
these conditions are not easily confused with generalized vaccinia. Multiple vaccination is characterized by autoinoculation of only one or two lesions, usually on the face or hands. Herpes zoster typically follows a nerve trunk and is very painful, thus enabling differentiation from vaccinal lesions, which have no predilection for nerve trunks and appear to cause only a pruritis. Pustular syphilis can usually be definitely diagnosed by history and serologic tests.

**Course of the Disease.**—The first manifestation, in most cases, was the appearance of multiple lesions, either about the vaccination site or elsewhere, followed by fever, prostration, and regional lymphadenopathy. The course was, in most cases, remarkably rapid, especially in those who contracted the virus from the vaccination of close contacts.

In most cases there was a rapid spread and progression of the lesions on the second day of illness. The temperature frequently reached 105°F., and prostration was severe at this time. From the second to the seventh day of the illness, successive crops of lesions erupted over different areas of the body. There was a definite affinity for eczematoid tissue, but the skin which had previously appeared healthy was involved also to a lesser extent. In only four instances were there lesions on the palms and soles, and in none of the cases were lesions present on the mucous membranes. The temperature of the less severely affected patients usually had subsided to normal by the fifth or sixth day of illness. In some of the more critically ill patients the temperature persisted as high as 104°F. until the eighth or tenth day. Toxicity ran closely parallel to the fever in its severity. With the fall in temperature, the appetite increased and the patient appeared to be in far better spirits.

The lesions, in the early stages, were umbilicated pustules. These frequently coalesced to form a mat of pustules, which soon broke down to leave a denuded, weeping area. This was frequently noted over the more severely affected eczematoid areas. The individual lesion was, on the average, from 6 to 10 mm. in diameter. In the isolated lesion a mild erythematous areola could be seen, but this was not comparable to that seen in the usual solitary reaction following intentional vaccination.

The umbilicated pustular form persisted for six to twelve days, when the lesion became rather heavily crusted and slightly larger than the original. This stage lasted for a variable period, desquamating and leaving an atrophic pale pink macule of corresponding size. Eczematoid tissue, where there was a confluence of the lesions, tended to be scarred, while the individual lesion left a barely perceptible blemish.

**Dissemination of Virus.**—Hematogenous spread of the vaccinia virus results in the presence of the virus in the nose and throat secretions of individuals vaccinated four to five days previously. This probably accounts for the cases of generalized vaccinia in those who