SKIN ERUPTIONS FOLLOWING VACCINATION: REPORT ON A CASE.

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Skin eruptions are not a common sequel of vaccination and their incidence would appear to be less than formerly. They tend to occur more often after primary vaccination than in re-vaccinated subjects. The abandonment of the method of cross-hatching in favour of the single linear insertion has probably been one of the causes of the decreased incidence of these rashes. Greater regard to asepsis in the act of vaccination as well as in the protection of the vaccinated area has also been an important factor in this.

Increased care in the preparation of the lymph, which formerly was often contaminated, is also a point of importance in this connexion.

Different types of rashes may occur. These vary from the local erythema, of greater or less extent, which is a constant accompaniment of successful vaccination, to lesions which embrace either the affected arm or other parts of the body. Papulo-vesicular, erythematous and "serum" type rashes were described in the Report of the Committee on Vaccination [1]. Although most often confined to the vaccinated arm they were occasionally found in other situations. Ricketts stated that the generalized erythematous eruptions were associated with secondary products of inflammation. Papular and papulo-vesicular lesions (vaccinal lichen) he believed to be toxaemic...
manifestations [2]. Many of the specific eruptions of generalized vaccinia recorded in the past were possibly variolous; they followed the use of lymph containing the virus of smallpox. The appearance of a generalized vaccinia in a child who had sucked the vaccine pustule of another child is recorded. Auto-inoculation may occur when there are cuts or abrasions elsewhere on the body or when skin diseases co-exist. Such sequelae are, however, surprisingly rare. The infrequency of generalized vaccinia is shown by the following figures, quoted by Rolleston [3]:

- France: 6 to 8 cases among 600,000 vaccinated.
- Denmark: 4 cases among 40,000 vaccinated.
- Germany: 5 cases among 100,000 vaccinated.

Difficulties in diagnosis are very liable to arise during a smallpox epidemic when vaccination, performed late in the incubation period, may modify but not prevent an attack of smallpox. A certain similarity in distribution between variolous and non-variolous lesions such as vaccinal lichen may increase these difficulties. Lichen urticatus, a common skin disease of early life, is almost indistinguishable from vaccinal lichen [4]. The author, in 1931, described 14 cases in which a skin eruption followed vaccination [5]. The cases occurred in London during an epidemic of modified smallpox. Some were notified as smallpox, others were discovered during the routine examination of smallpox contacts. All the patients were children most of whom came from homes in which cleanliness was not a predominant feature. Vaccination was primary in every case, one linear insertion being made. The eruptions appeared between the ninth and fifteenth days after vaccination. In some cases the rash consisted of small papules on which crusts appeared in about forty-eight hours. In others the lesions were maculo-papular, with or without urticarial blebs. In certain instances the rash became almost morbilliform after the lapse of one or two days. In the cases which resembled lichen urticatus pruritus was absent. In general the distribution was somewhat akin to that of smallpox but the face remained unaffected and prominences and points of pressure or irritation were not unduly favoured.

**Report of a Case.**

A healthy soldier noticed a small pimple on the wrist eleven days after primary vaccination on the opposite arm. He stated that he had not previously suffered from any form of skin disease. There had been a moderate local reaction with a considerable zone of erythema and some oedema of the arm. Further papules made their appearance during the next seven days. The patient was first seen on the tenth day of the eruption or nearly three weeks after vaccination. There was a fairly profuse eruption of superficial, irregular vesicles from $\frac{1}{4}$ to 1 inch in diameter, many with small crusts in their centres. Little or no surrounding erythema was noticed. Pruritus had been absent from the commencement. The rash was most plentiful on the forearms, thighs and scrotal region. The distribution is
indicated in the diagram and in figs. 1 and 2. During the next week the vesicles dried up completely and there was generalized crusting. By the twentieth day after its first appearance nothing remained of the rash but large, irregular, pigmented areas (fig. 3).

**Fig. 3.**

**Summary.**

A case is described in which a papular urticaria appeared on the eleventh day after primary vaccination. That the condition was a toxæmic manifestation, associated with vaccination, may be assumed from the time of its appearance. The occurrence of these rashes at a time when the vaccinial reaction is at its height, i.e. between the ninth and fourteenth days, was a constant feature in the cases previously described. The character and distribution of the lesions also closely resembled those of the former cases. The marked pigmentation which followed was, however, an unusual feature.

Despite the large number of primary vaccinations being performed on
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soldiers at the present time, sequelæ of this nature would still appear to be rare. Local inquiry has not brought to light any record of other cases of this nature among vaccinated soldiers. Further information on this point would be of interest.

I am indebted to Dr. Hamilton Wilkie of Leicester for his kindness in taking the photographs and to Colonel F. R. Coppinger, O.B.E., for permission to forward these notes for publication.

The originals are in colour and show the condition very well but, in view of present difficulties, black and white prints are substituted.

REFERENCES.