MULTIPLE VACCINIA OF THE EYELIDS*

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IN times of mass vaccination, instances of auto-inoculation from a vaccination pustule, or contamination from a recently vaccinated case, are not very uncommon. In the 4 months immediately following the outbreak of small-pox in Bradford (Douglas and Edgar, 1962), the Public Health Laboratory Service reported in the British Isles nineteen cases of accidental vaccinia infection of the eyes, and in each case the vaccinia virus was isolated from the eyelids or conjunctiva. Moffatt (1952) and Frampton and Smith (1952) noted that over 200 cases of ocular infection by vaccinia had been reported since 1796.

Case Report

A 12-year-old schoolgirl was first seen in the Salisbury Infirmary Eye Clinic in February, 1961, with a hordeolum of the left lower lid, and 2 months later with a hordeolum of the left upper lid.

On February 15, 1962, she noticed a "stye" on her left upper lid and consulted her own doctor, who commenced treatment with penicillin ointment. After 3 days there was considerable swelling of the left lids, and by February 19 the right lids were also swollen. She came to the Infirmary on February 20, when she was immediately admitted. She had never been vaccinated, but her father had had a fairly severe primary vaccination "take" 10 days before the onset of his daughter's illness. At about the same time several girls at her school had been vaccinated.

Condition on Admission.—The condition of the patient's eyelids is shown in the Figure.

FIGURE.—Condition on admission, February 20, 1962.

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More than fifty vesicles, some of them pustular and many of them confluent, were present on the cutaneous surface of the upper and lower lids of both eyes, mainly at the inner third. There was so much oedema that she was unable to open her lids. Vesicles were also present on the forehead, and there was one on the upper lip and one on the anterior abdominal wall. Cervical adenitis had produced a "Bull neck". She was rational and free from pain; the body temperature was 104°F. (40°C.), pulse rate 128 per min., and respiration rate 26 per min.

Treatment.—Ledermycin 150 mg. was given orally every 6 hours with Terramycin ointment 6-hrly to the skin lesions. On February 22—2 days after admission—1500 mg. post-vaccinal gamma globulin was given by intra-muscular injection.

Course.—On the day after admission (February 21) the temperature was 99°F (37.2°C). Further confluence of the vesicles had taken place, but the lid oedema remained unchanged, and the patient was still unable to open her eyes. On the day following the injection of gamma globulin (February 23) she was able to open her right eye without assistance; the conjunctiva was practically white and the cornea unaffected. On the following day she was able to open the left eye, which also proved to be unaffected. By this stage the vesicles were shrinking, some were umbilicated, and some showed signs of crusting. Ledermycin was now discontinued, but the local application of Terramycin ointment was continued until she was discharged on March 3, 1962.

Follow-up.—When she was last seen on April 4, 1962, both eyes were normal with visual acuity 6/5 uncorrected. There were no scars on the eyelids, but two pock marks were present on the forehead. She was free of symptoms and had returned to school.

Laboratory Investigations.—On the day of admission a smear from the fluid of one of the vesicles showed elementary bodies but no bacteria, and on culture there was no growth. Subsequent inoculation of chorio-allantoic chick embryo membrane resulted in a profuse growth of vaccinal lesions.

Discussion

It would seem most likely that the source of infection was the patient's father, although the standard of hygiene in the household was obviously high, and the patient declared that she never used her father's face-flannel or towel; however, she did use the same soap and nail-brush. Since she was predisposed to hordeola, it is possible that a hordeolum of the left upper lid was the initial site of the vaccinal infection.

The treatment—antibiotic to prevent secondary infection and specific therapy with post-vaccinal gamma globulin—is essentially similar to the treatment of the cases reported by Moffatt (1952) and Taylor (1957). It is interesting to note the dramatic improvement which occurred in this case within 24 hours of the gamma globulin injection. At no time was any attempt made to force the eyelids open, since clearly there would have been a considerable risk of introducing vaccinal virus into the conjunctival sac.

Although corneal complications in accidental vaccinia are rare (Duke-Elder, 1938), they are sufficiently serious to warrant elementary precautions after vaccination, and it is suggested that simple and brief instructions should be given as to the importance of not touching the vaccinated area, and of keeping all washing and toilet materials separate from other members of the

household. Many vaccinators advise that the vaccinated area be covered for 14 days with a simple porous dressing, and all discarded dressings should be destroyed immediately by burning.

Summary

A confirmed case of accidental multiple vaccinia lesions of the eyelids in an un-vaccinated 12-year-old girl is described. The response to treatment with systemic Ledermycin and post-vaccinia gamma globulin was rapid and satisfactory.

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