adjusted "to obtain maximum benefit without side-effects." Nevertheless, side-effects and complications were noted, and, in particular, the incidence of "moon-face" was much higher in the prednisone group. In view of this, the more favourable results observed with prednisone may be due, in part at least, to the use of a dosage relatively high in comparison with that given in the form of cortisone. Further observations, now being made, are necessary before final conclusions can be drawn.

Medical Memorandum

Desensitization of a Nurse to Streptomycin under Corticosteroid Cover

In individuals who have become sensitized to streptomycin by handling it during their work, reactions to even ephemeral contact with the drug may become severe and disabling. It is possible to desensitize these people by giving increasing small doses of the drug parenterally; but in those with extreme sensitivity this may be very difficult and take several months to accomplish (Crofton, 1953; Cohen, 1954). Though hypersensitivity reactions may occur in patients being treated with streptomycin, these are not usually precipitated by such minute quantities as with streptomycin-handlers, and desensitization is usually easy (Crofton, 1953). When severe reactions are met in such patients, corticotrophin has been of great value in suppression (Houghton, 1954).

It should be particularly useful to give corticotrophin or corticosteroids while desensitizing streptomycin-handlers, who are so much more sensitive to the drug. I have seen no previous report of such use, though in the case described below it was clearly of the greatest benefit.

CASE REPORT

A female nurse aged 27 had had no previous episodes of allergy. For 18 months she had daily prepared and administered injections of streptomycin and declared that during these she had always taken the strictest precautions against personal contact (Crofton and Foreman, 1948). At the end of this period she began to experience severe soreness of the eyes and of the eyelids, with swelling of the latter, whenever she came near open solutions of streptomycin or even near a room where these injections had been given. A patch test was negative, but when 25 μ g of streptomycin sulphate was injected intradermally she soon developed local oedema 5 cm. in maximum diameter, with more widespread redness and soreness. Six hours later there was marked redness and soreness of both eyes and lids. When 2.5 μ g. was given intramuscularly there was an almost equally severe reaction in both eyes. She was then put on chlorpheniramine maleate, 4 mg. twice daily, and then 0.5 μ g. of streptomycin sulphate was given, but was followed six hours later by the same reaction. The chlorpheniramine maleate was continued and 0.25 μ g. of streptomycin sulphate given mixed in a solution containing 25 mg. of mepyramine maleate. A slightly less severe reaction occurred, but even with 0.1 μ g. it was still marked. At this point the nurse had become despondent, and it was obvious that, even if a smaller dose had been found where no reaction occurred, desensitization would have taken several months and would probably have been very difficult.

She was therefore admitted to sick-bay and prednisolone treatment started with 20 mg. daily—5 mg. being given at 7 a.m., 10 mg. soon after the streptomycin injection in order to achieve a peak concentration at the time when a reaction might be expected, and the remaining 5 mg. at 8 p.m. As she had arrested pulmonary tuberculosis, successfully

treated by artificial pneumothorax from 1937 to 1941, she was given 10 g. of para-aminosalicylic acid and 200 mg. of isoniazid daily, in two divided doses, as a precaution against reactivation of the tuberculosis.

The next day 1 μ g. of streptomycin was given intramuscularly without reaction. The day after, 2 μ g. was given without reaction, but with 4 μ g. there was slight redness of both upper eyelids. The following day 4 μ g. was given again without reaction, but with the next dose of 8 μ g. there was again slight redness. Next day, with 15 μ g., there was no reaction, and the dose was doubled daily until, with 120 μ g., there was redness again of the eyelids, which did not reappear, however, when this dose was repeated the following day (the 10th). The dose was then doubled daily until the 15th day, when with 2 mg. there was again slight redness of the lids. On repeating this quantity next day there was no reaction and the dose continued to be doubled daily. After 80 mg. a few tiny follicles appeared over the face and both legs, but these cleared after a few hours; there was no redness of the eyelids. After 150 mg., and again after 300 mg., there was a similar but more marked transient rash with pruritus. There was no rash after 500 mg., but some generalized pruritus. After 1 g. on the 25th day there was headache and slight erythema of both upper eyelids.

Because of these reactions, although they were mild, it was decided that the nurse was not yet completely desensitized. The prednisolone was increased to 25 mg. daily, the extra 5 mg. being given at 8 a.m. On the 26th day there was no reaction with 0.5 g. of streptomycin; the day after 0.6 g. was given without incident, as were 0.75 g., 0.9 g., and finally 1 g. on the 30th day. The nurse resumed full duties next day, including the preparation and administration of streptomycin injections. Streptomycin was continued in the dosage of 1 g. daily for a further 23 days to maintain the desensitized state, while the prednisolone was reduced by 5 mg. every three days until, after 12 days, it was discontinued after a total of 32 days; the last 11 injections of streptomycin were therefore given without any cover. There has been no reaction whatever to the injections, nor has daily contact with streptomycin preparations over the succeeding two months produced any of the former manifestations of sensitivity.

COMMENT

It is clear that in this case desensitization without corticosteroids would have been most complicated and might have taken several months. When prednisolone was given desensitization was rapid and comparatively uneventful. Possibly the quantities of streptomycin were increased too rapidly after 1 mg. or so, because there were slight manifestations of sensitivity from 80 mg. to 1 g.; these, however, did not reappear when 0.5 g. was given later, and after four doses of increasing size 1 g. was reached and maintained uneventfully. It was striking how well the nurse looked and felt during the whole course of desensitization once the prednisolone was begun; this was in contrast to the malaise and despondency caused by the reactions to test doses of streptomycin previously.

In streptomycin-handlers with marked hypersensitivity to the drug it is possible that desensitization may be greatly eased and speeded by suppressing sensitivity reactions with corticosteroids.

I am grateful to Professor J. W. Crofton for his guidance in this case.

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