AUREOMYCIN IN TRACHOMA*

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A FEW reports have recently appeared in the literature concerning the efficacy of aureomycin (Lederle) in various types of ophthalmic infection, including trachoma. Thus, Braley and Sanders (1949), Moutinho and others (1949), Duke-Elder and others (1950), and Bellows and others (1950) report encouraging results from the use of this drug in trachoma. Since the total number of cases treated was extremely small (eleven in all), the drug has now been tried with a larger number of patients to evaluate its efficacy in trachoma, which is extremely widespread in the sub-continent of India.

Every clinical evaluation of a treatment requires a criterion whereby improvement may be assessed. Experience has shown that, in as much as trachomatous pannus is a concomitant feature of the disease which is easily appreciated, its regression or disappearance may be used to assess improvement or cure in trachoma. In this connexion it is interesting to note that in one reported series (Duke-Elder and others, 1950) the pannus (which, in some cases, was so well marked as to be visible to the naked eye) regressed so much within a few days of aureomycin therapy, as to be hardly discernable even with a slit lamp.

MATERIAL

Seventy-five cases (54 men and 21 women), of different age groups, ranging between 6 and 70 years of age (Table I), and suffering from trachoma with unmistakable pannus (as seen with oblique illumination, and a corneal loupe) were admitted as in-patients for treatment with aureomycin. Before the treatment was begun, the extent and type of the pannus, the stage of trachoma, and any complications were recorded.

TABLE I
AGE GROUPS OF PATIENTS

Years ...	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70	Total
No. ...	1	11	22	15	7	11	6	2	75

In the majority of cases (61) the pannus was of the fine type (pannus tenuis), and in the rest (14) it was coarser (pannus vasculosus). It was present all round the cornea in six cases (Table II), and limited to the upper part in the rest. In all cases but one it was progressive. Two-thirds of all the cases were in the second stage of trachoma (MacCallen's classification), and the remainder were in the third stage.

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TABLE II
EXTENT OF PANNUS

Extent ...	Upper 1/3	Midway	Up to Pupil	Upper Half	Total
No. ...	23	12	28	6	69

MODE OF TREATMENT

Aureomycin hydrochloride was converted into aureomycin borate by the following formula (Duke-Elder and others) :

Aureomycin HCl ...	25 mg.
Sodium borate ...	25 mg.
Sodium chloride ...	625 mg.
Distilled water ...	5 ml.

Fresh supplies were prepared every 48 hours, and the solution was kept continuously on ice. A drop of the solution was put into each eye every two hours, day and night (except between midnight and 6 a.m.). The duration of treatment varied from 7 days (three cases) to 55 days (one case) ; in the majority it lasted from 8 to 14 days (49 cases, Table III). The patients were examined for improvement at weekly intervals.

TABLE III
DURATION OF TREATMENT

Days ...	7	8-14	15-21	22-28	29-35	55	Total
No. ...	3	49	17	2	3	1	75

RESULTS

In all but two cases there was dramatic improvement, the eye becoming white within five to seven days. Of the two refractory cases, one (aged 22, second stage trachoma, pannus tenuis midway between the limbus and the pupil) underwent treatment for seven days, and the other (aged 20, second stage trachoma, pannus tenuis up to pupil) for 21 days. Unfortunately reasons for the failure of the drug in these two cases could not be investigated.

Regression of the pannus (as seen with oblique illumination and the loupe) occurred in six cases. This change was noticed in two cases on the eighth day, in one on the tenth day, and in the remaining three on the sixteenth day. Five of these cases were in the second stage, and one in the third stage of trachoma. The pannus was of the fine type before treatment in all of them. No further improvement took place, even though in two of them treatment was continued until the 20th and 29th day respectively. In another cases (with well-marked follicles) the follicles disappeared after 32 days of treatment, but the pannus remained unchanged even after 55 days.

The treatment appeared to have no effect on the pannus in the remaining 69 cases.

DISCUSSION

Generally speaking, patients with trachoma do not seek medical advice unless there is some complication (usually a slight super-added infection, giving rise to irritation, lacrimation, and redness, with a merely nominal discharge in the mornings). Aureomycin relieves these symptoms, and though other antibiotics and chemotherapeutic drugs do the same, the results obtained with aureomycin are more dramatic, and the duration of treatment shorter.

Aureomycin failed, however, to produce any beneficial effect on the pannus (the *sine qua non* of trachoma) in 92 per cent. of cases. In the six cases (8 per cent.) in which the pannus became regressive, it did not disappear altogether after further treatment, and this makes it difficult to say whether the improvement noticed was due to the drug used, or to the fact that the disease had already spent its force. It is interesting, in this connexion, to record that clinically two different types of trachoma cases were encountered; one, in which the disease is almost self-limiting and causes few complications even after the lapse of decades, and a second, in which the disease is progressive and runs the usual four-stage course. The cases showing regressive pannus under treatment may belong to the first category.

These results run counter to those published by other authors. One possible source of error is that pure aureomycin hydrochloride for making the borate solution was not available, and that used was the one supplied in capsules of 250 mg. each. Nevertheless, the rapid improvement in symptoms in almost all cases gave clinical proof that the solution used was potent.

SUMMARY

A report is presented of the treatment of trachoma by aureomycin (Lederle) in 75 cases. It is concluded that although the drug controls the symptoms of the disease, it appears to have no effect upon the trachomatous pannus.

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REFERENCES

- BELLOWS, J. G., RICHARDSON, V. M., and FARMER, C. J. (1950). *Amer. J. Ophthalm.*, **33**, 273.
 BRALEY, A. E., and SANDERS, M. (1949). *Ibid.*, **32**, No. 6, pt. 2, p. 119.
 DUKE-ELDER, S., AINSLIE, D., and BOASE, A. J. (1950). *British Journal of Ophthalmology*, **34**, 30.
 MOUTINHO, H., GRILO, M., and MOURA, S. DE (1949), quoted by Duke-Elder and others (1950).