

Ultimately, the control of trachoma requires a permanent change in behaviour patterns and in environmental factors. The final—but unfortunately remote—solution would be the improvement of living conditions to the level where trachoma would tend to disappear spontaneously as a public health problem.

CONTROL OF TRACHOMA

By

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ON a worldwide basis, trachoma continues to be the most important single cause of preventable blindness. It is prevalent throughout most of the developing parts of the world, and appears to be associated with such environmental factors as poverty, overcrowding, lack of sanitation and inadequate hygiene. Even within the areas where trachoma is present there are striking differences, linked with variations in social and economic living conditions at the individual or household level.

It has been shown, too, that there is a strong family connection. When one case is detected, others will almost certainly be found in the family group. There is a continuous feedback of infection, partly as a result of grandparents, or sisters and brothers, tending small children.

As living conditions improve, the disease tends to regress in terms of cases and in terms of their severity. However, this may be highly localized and it might be falsely assumed that trachoma is disappearing while it may well persist in rural areas. Despite the effectiveness of control campaigns, 1975 estimates suggest that cases of this communicable eye disease total as many as 500 million, while two million persons are blind because of it. Adequate control measures remain essential wherever trachoma still constitutes a risk.

Recent progress in the knowledge of the disease has led to significant changes in the approach to the problem, and these in turn have increased the efficacy of control programmes even if their basic components—namely medical and surgical treatment and health education—are still the same.

Long before it became possible to cultivate in the laboratory the specific agent of the disease—a relatively complex micro-organism called *Chlamydia*, sharing some of the characteristics of bacteria and of viruses—and to study its structure and behaviour under experimental conditions, the efficacy of antibiotics and sulfonamides had been recognized. Earlier clinical observations about the usefulness of these drugs were eventually confirmed when it could be shown that they were selectively inhibiting the micro-organism's development.

The availability of the trachoma agent in the laboratory and the possibility of producing it in theoreti-

cally unlimited amounts—a result which was first obtained less than 20 years ago—led some researchers to believe that an effective vaccine could be developed. But work in this direction has given disappointing results and has virtually been abandoned.

Local application of antibiotics, mainly the tetracyclines and erythromycin, remains the preferred method in large scale treatment campaigns, while systemic antibiotics and sulfonamides may be useful for the treatment of individual cases under adequate supervision.

An essential prerequisite for evaluating the results obtained by treatment, and for a better understanding of the pathological process, has been the development of more precise and uniform criteria for identifying and recording individual clinical signs. In epidemiological studies, more stress is now put on signs reflecting the degree of intensity of the inflammatory response of the upper conjunctiva and of subadjacent layers, which are more likely to cause deformation of the upper eyelid at a later stage. The description of these signs, and of irreversible lesions such as the scarring and distortion of the eyelid, enables an objective evaluation of the damage caused by the disease to be made.

All these findings have obvious implications for the establishment of priorities and indications for treatment.

Carefully controlled field trials have made it possible to show that antibiotic treatment, when properly applied, may successfully lower the risk represented by the disease, firstly by reducing the severity of individual cases and then their total number.

It is now generally accepted that the risk represented by trachoma is related to a certain extent to the concomitant presence of associated bacterial infections and to repeated infections with the specific agent of the disease. This concept implies the idea of a "syndrome" caused by the combined action of different causes but does not modify the indications for treatment. Indeed it also represents a further reason for introducing large scale treatment campaigns with antibiotics which—through their effect on both the specific agent and the associated bacteria—reduce the risk of infection and the severity of the disease.