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Editorial

Trachoma still undefeated

An attempt to cover the literature on trachoma for the purpose of writing an editorial note brings home to one its immensity and variety, dealing as it does not only with the clinical, epidemiological, and surgical but also the public health aspects of the disease, as in the paper by Courtwright and others in this issue. Furthermore trachoma has a rich historical literature, admirably summarised by Duke-Elder,¹ in which he reminds us among other things of the ancient records of trachoma from China in the 27th, Sumeria in Mesopotamia in the 20th, and Ancient Egypt in the 19th centuries BC. It also appears in the literature of Greece and ancient Rome, and according to Duke-Elder the name trachoma was used by a Cilician physician, Pedanius Dioscorides, in the first century AD. An English translation of trachoma, which is derived from the Greek meaning rough, is granular conjunctivitis, and one remembers that, if the conjunctiva was thought to be rough, the treatment was even rougher, for the 'granulations' (follicles) were drastically dealt with by scraping, rolling, mangling, and gouging with a selection of ferocious instruments in combination with the stringent application of various caustic agents.

The paper in this issue is a salutary reminder to ophthalmologists from the developed countries, who tend to be inundated with 'high tech' literature, not to forget trachoma. During the 90 years of the present century there have been at least a dozen major textbooks on the subject and during the last 40 years alone several thousand papers and monographs, though it is noticeable that the number per annum has declined in the last few years from well over 100 in the 1950s and 1960s to rather fewer in the last two or three years.

These papers cover such diverse and curious aspects as the development of immunity to chlamydia in monkeys,² the use of trachoma to avoid military service,³ daily treatment of the lids with tannic acid⁴ or amnion grafts,⁵ 'moss' (fungi imperfecti) as a suggested aetiological agent,⁶ and a cure by homoeopathy⁷ as well as a mass of serious accounts of aetiology, pathology, and treatment both medical and surgical, together with an exhaustive list of surveys in virtually every part of the world, from Austria to Vietnam, from Casablanca to China, from France to Fiji, and from South Africa to Serbia to name but a few.

As one traces the development of our understanding of the disease, it is interesting to see the gradual dawning of understanding of the presumed aetiological agent with its variable expression as sometimes relatively mild 'inclusion conjunctivitis' or the severe form of trachoma. The cause of such diverse manifestations of the response to the *Chlamydia trachomatis* as occur clinically has always been difficult to explain.

It is interesting that in 1970 Wang and Grayston⁸ suggested that differences in the host immunological status could cause differing clinical syndromes in infection by similar organisms, and it was from such immunological studies that the serotyping of the virus soon evolved. That the organism

C. trachomatis is the essential infective agent seems now to be universally agreed, though since the original description of inclusion bodies by Halberstaedter and Prowazek in 1907⁹ there has been some uncertainty about the exact role of these bodies. The position has now been consolidated by the work of T'ang and coworkers,¹⁰ who cultivated the virus on chick embryo. Further, Thygeson suggested the agent's inclusion in a list of 'atypical viruses' of the psittacosis-lymphogranuloma-venereum group under the generic name of Chlamydozaceae.¹¹ Trachoma and inclusion conjunctivitis were attributed to different members of the group, though for some years others thought that there was only a single agent, so that the differing manifestations gave rise to a certain amount of confusion. The identification of distinct serotypes characteristic either of hyperendemic blinding trachoma of eye-to-eye transmission or the much less menacing paratrachoma, typically sexually or perinatally acquired, has confirmed Thygeson's prediction and eliminated the confusion. An excellent summary of the refinement of our understanding of the infective agent has been given by Barrie Jones,¹² who with his coworkers has done a great deal to identify the points of similarity and difference between blinding trachoma and inclusion conjunctivitis by means of both epidemiological and laboratory investigations.

Much present research is now concerned with the application of our better understanding of the nature of the infective agent and its modes of transmission. The various risk factors and their roles in relation to local geography and politics in various parts of the world are being widely examined, such things as water supply, sewage disposal, fly control, and traditions of and facilities for personal hygiene probably being equally if not more important than the availability of local or even systemic antibiotics. It is clear that along with cataract, nutritional deficiencies, and onchocerciasis trachoma is still one of the world's major blinding diseases.

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- 1 Duke-Elder WS. *System of ophthalmology*. London: Kimpton, 1965; 7 (1): 249-303.
- 2 Taylor HR. Development of immunity to ocular chlamydial infection. *Am J Trop Med Hyg* 1990; 42: 358-64.
- 3 Lopez AA. Trachoma and military service. *Arch Soc Oftalmol Hispano-Am* 1949; 9: 1102-6.
- 4 Pavkovic-Bugariski D. Treatment of trachomatous pannus with amnion grafts. *Srp Arh Celok Lek* 1950; 48: 866-8.
- 5 Sedan J, Sedan-Bauby S. The daily treatment of trachoma by tannic acid. *Rev Int Trach Pathol Ocul Trop Subtrop Sante Publique* 1949; 26: 177-84.
- 6 Socias A. The hypothesis of a fungal aetiology of trachoma. *Rev Sanid Hig Publica (Madrid)* 1950; 24: 422-43.
- 7 Apte GD. Homeopathy and ophthalmic practice. *Indian J Ophthalmol* 1951; 12: 65-8.
- 8 Wang S, Grayston JT. Immunologic relationship between genital TRIC, lymphogranuloma venereum, and related organisms in a new microtiter indirect immunofluorescence test. *Am J Ophthalmol* 1970; 70: 367-74.
- 9 Halberstaedter L, von Prowazek S. Über zillenschlusse parasitaren Natur beim Trachome. *Arb K Gesundheitsamte (Berlin)* 1907; 26: 44-7.
- 10 T'ang FF, Huang YT, Chang HL, Wang KC. Isolation of trachoma virus in chick embryo. *J Hyg Epidemiol Microbiol Immunol* 1957; 1: 109-20.
- 11 Thygeson P. The trachoma-psittacosis-lymphogranuloma venereum group of viruses: the chlamydozaceae. *Am J Ophthalmol* 1951; 34: 7-34.
- 12 Jones BR. The prevention of blindness from trachoma. *Trans Ophthalmol Soc UK* 1975; 95: 16-33.



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