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## Editorial

### Eradicating trachoma: The experience in Taiwan



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Trachoma is a centuries-old external eye infection caused by *Chlamydia trachomatis* that has affected humans since the dawn of civilization. Before the invention of antibiotics, it was the leading cause of corneal blindness. Even today, trachoma remains one of the two eye diseases that are global health topics (the other is cataract).<sup>1</sup> After World War II, under the supervision and guidance of WHO, a global campaign against trachoma gained substantial progress. This resulted in trachoma essentially being eradicated in developed countries, and in many developing countries.

In the review article *Trachoma in Asia—A disappearing scourge* by Hugh Taylor, the author presents the readers with a concise review on the epidemiology of trachoma. This begins with trachoma infection in human history, followed by the pathogenesis of trachoma, in which recurrent infections caused a progressive fibrosis of conjunctiva, cicatricial entropion, pannus formation and corneal damage that ultimately affects the vision. When the first International Congress of Ophthalmology was held in 1857, trachoma was one of the two key issues on the agenda.<sup>2</sup> In the 20th century, trachoma was widespread around the world up to the 1920s, but started to disappear in most developed countries thanks to improved living conditions and the advent of antibiotics, such as the sulfonamides in the 1930s and tetracycline in the 1940s. As a consequence, trachoma had disappeared from most developed areas by the 1950s and 1960s. Data presented by the author showed that in

Japan trachoma essentially disappeared among school children in the 1970s, and similar findings were reported from Taiwan.

The control of trachoma in Taiwan began from the Japanese occupation period (1895–1945). From 1915 to 1917, the first island-wide investigation showed that the prevalence rate was 38.7%, with the incidence higher in southern region (48.76%) and lower in the northern region (21.79%). Blindness caused by trachoma was almost 3% among the general population.<sup>3</sup> Subsequent studies (1922–1925, 1926–1929, and 1935) revealed that the prevalence rate had been approximately 35%. The Japanese colonial government started some control and treatment projects in endemic areas after the 1920s. However, limited by the availability of antibiotics, the control effect was not significant during that period.

It was after World War II, with the assistance of WHO and UNICEF, that marked a new era of trachoma control in Taiwan. In 1952, a pilot project supervised by WHO was started, which showed that topical treatment with 1% aureomycin or terramycin for 2 months was successful for most cases, and oral sulfonamide was effective for cases refractory to topical treatment. In 1954 a Center for Trachoma Prevention and Treatment was established in the Taiwan Provincial Government. This center served as a hub for education, and training center for primary care physicians and nurses from local public health centers, as well as school teachers and administrators. Few ophthalmologists were available at that time, therefore the primary-care physicians were trained to identify active trachoma and to give treatment at schools. A massive campaign aimed at treating all school children was conducted between 1954 and 1956. The treatment protocol was standardized, which comprised 1% aureomycin or terramycin twice daily for 2–4 months, and combined oral sulfonamide after 2 months for refractory cases. However, because the healed school children often suffered from reinfection contracted from other family members,<sup>4</sup> after 1962 a community-wide trachoma treatment program was instituted on the whole island.<sup>5</sup> The children were treated at schools, while the adults received treatment from local public health centers. With these efforts, in 1961 the prevalence was reduced to 13.1% in the general population, in 1968 it was 3.4%, and in 1981 it was < 1%. Since then, trachoma is no longer a public health issue in Taiwan. When the national health insurance (NHI) became available in the 1990s, statistics showed that the number of patients treated under the diagnosis of trachoma further decreased by 84% from 1998 to 2008. In 2008, the NHI database showed that a total of 2317 cases nationwide (< 0.01%

general population) were treated, with most patients being elderly. This reflected the fact that these were old cases contracted during their childhood, and sought medical treatment for the long-term sequela.<sup>3</sup>

In 1997, WHO launched the WHO Alliance for the Global Elimination of Trachoma by the year 2020 (GET 2020). To date, although active trachoma still remains a problem in some countries in the Asia–Pacific region, the global effort has made trachoma rapidly diminish in these countries. In endemic areas using the WHO-recommended SAFE strategy (surgery for inturned lashes, antibiotic treatment, the promotion of facial cleanliness and environmental improvement), it is very likely that trachoma as a blinding disease can be eliminated in the Asia–Pacific region by the year 2020.

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with hearted appreciation and best regards,

David Hui-Kang Ma, M.D.

Editor-in-Chief

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From left to right: Prof. An-Guor Wang, Chair of Local Organizing Committee; Prof. Jan Tjeerd de Farber, President of European Society of Ophthalmology; Prof. Lin-Chung Woung, Congress President of APAO 2016 & President of Ophthalmological Society of Taiwan; Prof. Jen-Ren Chen, Vice President-Elect of Republic of China (Taiwan); Prof. Dennis Lam, Scientific Program Chair and President of APAO; Prof. Clement Tham, Secretary-General of APAO; Prof. Hugh Taylor, President of International Council of Ophthalmology.