

CENTRAL INTELLIGENCE AGENCY

## REPORT

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## THE FIGHT AGAINST TRACHOMA IN THE SOVIET UNION

Two basic, antagonistic points of view on trachoma developed in the pathohistological research of Soviet ophthalmologists in the years before World War II. One group (in whose number I was included) considered trachoma an infectious inflammation of a proliferous nature. The other group (a minority) considered trachoma a hyperplastic process. This hyperplastic theory is

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one-sided and is opposed to all the concepts about trachoma in regard to its etiopathogenetic and clinical aspects. It does not agree with the existing concepts on the epidemiology of trachoma, on its prophylaxis, and on the results of the fight against it in the Soviet Union.

With the aim of unifying the diagnosis and registration of trachoma, as far back as 1933 I proposed to the all-Russian meeting on the problem of trachoma the use of cards to record the development of trachoma in four stages. My card system was approved by the People's Commissariat of Health, and in February 1935 was made obligatory in the registration of trachoma. Adoption of my system put an end to confusion in the registration of diseases which was hindering the proper study of trachoma.

Etiology and pathogenesis were the most important problems for me in my study of trachoma. Ignorance of the causes of trachoma naturally makes difficult the study of various aspects of the problem, the morphology of the disease, its prophylaxis and treatment.

For the first 10 years after the revolution, Soviet ophthalmologists continued to work chiefly along the lines of development of the etiological significance of the intracellular impurities theory of Provacek, the prominent Czech scientist. Followers of Provacek's theory started out with great hopes for discovering the cause of trachoma, but subsequent difficulties and contradictions undermined the accuracy of the intracellular impurities theory.

Great difficulty was encountered in development of the study of the virus nature of the process. However, after protracted observation, argument and antagonisms for more than 10 years, ophthalmologists finally accepted Noguchi's discovery, made in 1926, of a bacillus which he named bact. granulosa as the cause of trachoma.

Other scientists, especially the French, subsequently attempted to prove that rickettsiae, such as the Rickettsia prowazekii which caused typhus were instrumental in causing trachoma. Soviet scientists rejected this theory and eventually succeeded in proving the theory now universally accepted, namely, that trachoma is a virus disease whose causal organism is located in the epithelium. Moshkovskiy and Grossfel'd were the leading Soviet scientists in proving this theory. Grossfel'd pointed out that trachoma begins with severe nonfollicular conjunctivitis (the "prefollicular stage" as he puts it). Moshkovskiy indicated that the causal organism of trachoma is a virus infection related to the cytotropic microbes of the group chlamydozoa, called chlamydozoon trachomatis.

Several chapters in my monograph are devoted to an explanation of the pathogenesis of the trachomatous process. I dealt, first of all, with the problem of the significance of the individual's constitution in trachoma. Certain scientists, especially the Italian group, claimed that trachoma is connected with certain types of constitutions and that the constitution is a very important factor in the rise of trachoma. These Italian scientists even maintained that various clinical forms of trachoma have as their direct cause, not infection, but a lymphatic constitution. Refuting this theory, our scientists have proved that it is wrong to speak of the selective attraction of the trachomatous process toward a given type of constitution and of diathesis of an endogenous nature, without fully considering social factors, which are extremely important in any diathesis toward trachoma.

Several research projects on the etiopathogenesis of trachoma in the last 10 years have studied the problem of allergy in trachoma. Further observation is necessary in this field.

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In widespread, careful observation (including wide utilization of dispensary methods in the antitrachomatous fight in our country) I clearly established the fact of widespread contamination among children, and I also compiled sufficient data to prove that increasing immunity to trachomatous infection has not been fully achieved. As a result, contamination by trachoma can still break out in any age group.

The results of observations by other Soviet scientists and myself have categorically refuted the so-called theory of racial immunity, i.e., racial predisposition to trachoma which certain foreign trachomatologists have preached. I have proved with many examples that the prevalence of trachoma among various national groups in Tsarist Russia was due to social and communal conditions rather than to any so-called racial immunity or racial susceptibility.

On the basis of data compiled by me in dispensary work in the Chuvash ASSR and by my colleagues, I have demonstrated that trachoma is spread in the family, and that the role of schools in this region is limited and casual.

In the chapter on "Trachoma and the Army," I pointed out the historical significance of the Army as a source for spreading trachoma in prerevolutionary Russia. By contrast, the Soviet Army is not only not a source for contamination and diffusion of trachoma, it is a positive safeguard against the spread of this disease. In fact, service in the Army is a powerful factor in maintaining the health of the Soviet people.

A substantial portion of my book is devoted to problems of trachoma prophylaxis and the organization of the fight against the disease. The dispensary method of public health service has proved successful in fighting trachoma, especially in Chuvash and Udmurt ASSR's.

Chuvashiya and a number of other ASSR's were formerly considered focal points for the spread of trachoma. However, with the introduction, after the revolution, of effective mass methods of fighting the disease, annual incidence has decreased. Dispensaries were set up to treat trachoma patients. The basic unit in this fight was the Trachoma Center (punkt) where, under the supervision of a physician (regional oculist, sectional physician), the dispensary, or so-called trachoma nurse conducted medical treatment and preventive work among the population of a given section. By 1935, the annual increase in the number of dispensaries had made possible compulsory medical treatment for trachoma victims. The result was a decrease in the incidence of trachoma, especially in Chuvash ASSR.

From the beginning of the thirties, the Ophthalmic Clinic of the First Leningrad Medical Institute, under my direction, took an active part in the fight against trachoma in Chuvash and, later, Udmurt ASSR's. I organized field brigades of my associates to study the disease locally in the republics, and to train the sectional physicians in short courses on trachoma.

Doing field work in the republics among the trachoma victims proved wonderful experience for all of us, the workers of the Institute. We worked among kolkhozes at the lowest level, the nurse centers, and in the special ophthalmic hospitals at the republic level. We were able to examine all the achievements and shortcomings of the system, to supervise directly and to improvise on the spot. By 1935-36, we had provided the population of Chuvash ASSR complete dispensary service.

The establishment of scientific research institutes at the oblast level contributed greatly to the over-all fight against trachoma. As far back as 1922, the First Trachoma Scientific Research Institute (named Professor Adamyuka) was set up in Kazan. This special trachoma research institution was not only the first of its kind in the Soviet Union; it was the first in

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the world. In addition to research work, this institute organized practical medical treatment, conducted prophylaxis of trachoma, and trained personnel. Subsequently, trachoma institutes were set up in the Bashkir and Chuvash ASSR's, the Turkmen SSR, and other national republics. A network of ophthalmic clinics were also opened at the various higher medical institutions.

The vast bibliography of literature on the subject of trachoma indicates the significance of the development of its study in the Soviet Union.

After noting the extent of the antitrachoma fight in our country, I have come to the conclusion that complete elimination of trachoma, both as a mass disease and as a legacy of the past, is possible.

The latter sections of my work deal with the contemporary situation of medical treatment of trachoma. Widespread use of surgery on trachoma in the Soviet Union has fully proved the value of this method. Soviet ophthalmologists have performed many original operations at various stages of the disease.

Repeated expression of the trachomatous follicles in the early stages of trachoma, which was first proposed as far back as 1931 by Academician V. P. Filatov, has completely justified itself.

In our practice, repeated expression has been particularly effective when used in combination with medical therapy. Widespread use of "irritant" or stimulating therapy, which causes a reaction in the organism of the trachoma patient, has been a feature of trachoma therapy in recent years. Various forms of osmotic, autohemis, protein therapy, etc., have also been introduced into the medical treatment of trachoma along with the use of local applications (of drugs).

The tissue therapy of Academician Filatov has been conducted by us for the last few years. Tissue of cadavers and of plants, various grafts, extract of preserved tissue, etc., have all been used very successfully in the therapy of corneas affected with trachoma.

Soon after the appearance of powerful medicinal means of chemotherapy in the form of sulfamide preparations, attempts were made to introduce sulfamides on a large scale in the treatment of trachoma. We can state that at present therapy of trachoma by sulfamide and its complexes has achieved significant success, especially in combination with mechanical therapy. Therefore, we must acknowledge that sulfamide preparations are now an essential part of the arsenal of antitrachoma therapy and are empirically established as a type of medicine.

A number of problems relating to the study of trachoma could not be presented in any detail in my monograph. Many aspects of this problem require further study and development. Soviet ophthalmology must still solve great problems before the fight against trachoma in our country can be won.

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