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RECENT SOVIET CONFERENCES ON PROBLEMS OF OPHTHALMOLOGY

- USSR -

by L. V. Rokitskaya

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Recent Soviet Conferences on Problems of Ophthalmology

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Volga Conference on Glaucoma

by

L. V. Rokitskaya

In Kuybyshev (Oblast) the First Volga Conference on Glaucoma was held 25 and 26 September 1959.

One hundred and seventy-five persons participated in the work of the Conference. Of them there were 78 ophthalmologists from Kuybyshev; 22, from Kuybyshev Oblast; 75, from other cities and oblasts of the Soviet Union. The conference attracted the attention of physicians not only from the Volga area (Tatarskaya ASSR, Kalininskaya, Yaroslavskaya, Gor'kovskaya, Ul'yanovskaya, Kuybyshevskaya, Saratovskaya, Stalingradskaya and Astrakhanskaya Oblasts) but also of Mordovskaya, Chuvashskaya, Udmurtskaya, Bashkirskaya Republics (35 delegates) and cities (Moscow, Leningrad, Odessa, Stavropol' in the Caucasus, Kislovodsk,

Ryazan', Kalinin, Stalinsk, Kaliningrad, Orenburg, Voronezh, Penza, Ivanovo and others). Eleven professors, directors of chairs of medical institutes, were present at the Conference.

The Conference was opened by Professor T. I. Yeroshevskiy. In his introductory talk he threw light on the achievements of ophthalmology in the elimination of many infectious diseases of the eyes and emphasized the problem of first importance confronting ophthalmologists of the entire world at the present time--the fight against glaucoma.

Thirty-two reports were heard devoted to problems of the etiology and pathogenesis, diagnosis, treatment and prophylaxis of glaucoma.

Professor V. N. Arkhangel'skiy (Moscow) in a report, "Problems of Ophthalmologists, in Controlling Blindness from Glaucoma" indicated the lack of perfection of existing methods of treating glaucoma and emphasized the exceptional importance of the early detection of it by the method of dispensary care. It is necessary not only to detect patients with glaucoma and, therefore, to recognize it early but also to prevent the occurrence itself and the development of the disease by means of the active and extensive incorporation of existing prophylactic measures into practice. One of these effective measures is the extensive use of miotics for persons who have reached the age of 50.

The report by Professor S. M. Khayutin (Yaroslavl) was devoted to problems of the hygiene and prophylaxis of glaucoma. Based on the ideas that primary glaucoma occurs as a result of a change in the functional condition of the central nervous system leading to a disturbance in the regulation of the intraocular pressure, the speaker analyzed the local and general mechanisms contributing to the development of the process. After ascribing the proper roles to the local factors (changes in the blood vessel wall, congestion of the vascular tract, obstruction to outflow, disturbance of the enzymic and oxidative processes), he dwelled on the general unfavorable agents which exert a harmful influence on the central nervous system, namely, on the glaucomatous process (toxins which enter the body in diseases of the liver, kidneys, lungs, toxic products of disturbed metabolism, disturbance of the oxidative processes in cardiovascular diseases, diseases of the blood, endocrine disorders, etc.).

The speaker recommends, in addition to locally applied agents, diets and the routine to be observed by the patient, that drugs be used which increase the activity of the central nervous system (dibasole, /hydrochloride of a complex heterocyclic compound with benzene radical: spasmolytic and hypotensive/, tissue therapy, bromides, vitamin therapy, Krasnushkin's mixture, glutamic acid,

intravenous infusions of 0.25-0.5 percent solution of novocaine, 40 percent glucose solution, etc.). Based on the experience of the clinic which he directs, the author considers it expedient to use salicylates, which contribute to the regulation of intraocular pressure. Therapeutic measures directed at normalizing the functional condition of the cardiovascular system, particularly in hypertension are of great importance. In the presence of increased prothrombin time ^{an} small doses of anticoagulants should be used for prophylactic and therapeutic purposes.

The report by Professor A. I. Volokonenko (Voronezh), "The Pathogenesis of Glaucoma" reflects the current views on the origin and nature of glaucoma. In sharing his ideas on the nerve-reflex mechanism of the glaucomatous process, the author presents a number of factors which constitute evidence to the effect ^{that} the primary pathological focus is localized in the eyeball itself in glaucoma. The central nervous system is involved secondarily, and then a vicious cycle ^{is set up} and glaucoma occurs. The speaker emphasizes the importance of the sympathetic nervous system, the oculomotor and trigeminal nerves, the vascular permeability in the development and course of the glaucomatous process.

Senior scientific worker A. Ye. Shevelev (Odessa) reported on the new possibilities of obtaining experimental

models of glaucoma.

Candidate of Medical Sciences, M. S. Remizov (Yaroslavl) reported on certain factors in the neurovascular compensation in glaucoma. In analyzing the increase in blood pressure in the retinal blood vessels in response to an increase in the intraocular pressure as one of the important compensatory factors, the speaker determined four variants of the degree of expression of the retinal vessels to the increase in pressure. In comparing the condition of this compensatory factor with the duration of preservation of the visual functions the author showed a definite relation between them. The best variant of adaptive capacity makes it possible to count on a prolonged preservation of visual functions; a disorder in the compensatory factor contributes to a rapid loss of the visual functions.

V. A. Tikhova, Doctor of Medical Sciences, presented interesting data on the morphological changes in the nerve elements of the iris in glaucoma.

K. G. Kulakhmet'yeva, Candidate of Medical Sciences, (Kazan) reported on her investigations in the study of the unconditioned-reflex regulation of the tone and its relationship to the elastotometric data in patients with glaucoma. On the basis of a study of 41 glaucoma patients and 29 persons not suffering ^{from} this disease she noted a disturbance in the regulation of vascular tone in the

first group, which, as a rule, was associated with pathological elastotometric curves.

Three reports were given over to the diagnosis of glaucoma. Professor N. I. Artem'yev, speaking about the considerable difficulties in the early diagnosis of glaucoma, pointed out that the generally accepted 24-hour tonometry (twice), like elastotometry, in the earliest period of glaucoma is not uncommonly inadequate for the diagnosis of the disease. Tonometry performed every three hours

makes it possible to detect the disturbance in the pressure regulation considerably more often in these cases. The author recommends performing tonometry every three hours for purposes of the early diagnosis of glaucoma.

Yu. I. Sakharov, A. P. Nesterov, V. A. Isayev and P. G. Gorbarenko (Kuybyshev) demonstrated two new electron ophthalmotonographs. One of them (a high-frequency tonograph) has already been used for more than a year in the Kuybyshev eye Hospital and has given a good performance. Even more perfect is the new three-channel frequency dynamic tonograph which makes it possible to record the respiration and blood pressure at the same time as the intraocular pressure.

Assistant A. P. Nesterov (Kuybyshev) in the report, "Tonographic Research on Normal and Glaucomatous Eyes" presented a detailed analysis of 211 investigations performed

by means of a high-frequency tonograph. The author concludes that tonography according to the Grant method may be used for the diagnosis of glaucoma, for the checking of its course and for the study of problems of regulation of intraocular pressure.

The greatest number of reports (18) was given over to the problem of therapy of glaucoma; seven of them dealt with conservative methods of treatment; 11, surgical.

The attention of the audience was attracted to the report of Professor N. M. Pavlov (Stavropol' in the Caucasus) and Ye. K. Mayachenko (Kislovodsk), house physician in the eye department of the "Piket" Sanatorium, "Sanatorium-Health Resort Treatment of Patients with Glaucoma", in which a report was given concerning the favorable effect of this type of treatment on the functional activity of the visual analyzer as well as on the regulation of the intraocular pressure. Of 25 patients an improvement in function, a decrease or complete regulation of the pressure occurred in 19 after comprehensive therapy had been given. The Sanatorium-Health Resort Treatment combination included the following: 1) narzan baths [mineral water containing sodium carbonate, sodium chloride, carbon dioxide and hydrogen sulfide]; 2) hydroionization; 3) a galvanic collar with calcium, bromide, and magnesium; 4) climatic therapy. On the basis of their observations the authors conclude

that the creation of specialized sanatoria is needed for patients with glaucoma.

The remaining six reports concerned the use of various miotic and dehydrating agents in the treatment of glaucoma.

Thus, from the chair of eye diseases of the Kazan' Institute for the Advancement of Physicians and the Eye Hospital of the Kazan' Medical Institute assistant V. M. Krasnova and assistant Z. M. Osipova reported on the favorable effect of new miotics on pressure and eye function--phosphazine (preparation No 672), phosarbine and dithio, which in a number of cases has considerably exceeded the effectiveness of pilocarpine. Data concerning the beneficial influence of phosarbine was presented in his report by R. F. Adyshirin-Zade, house physician of the Kuybyshev Eye Hospital.

In the reports of A. A. Bochkareva (Orenburg), I. N. Khizhnyakova (Gor'kiy), and A. Ya. Bunin (Moscow) and coauthors the results were presented of the use of phonurite and diamox, which have shown very effective hypotensive properties. The authors particularly recommend their use in stasis glaucoma in the stage of decompensation and in the stage where there is no compensation, during the pre-operative period and when the anterior chamber does not heal for a long time.

A. Ya. Bunin, Candidate of Medical Sciences, and

scientific worker F. Ya. Mogilevskaya, and scientific worker R. I. Tsaritsina, and Candidate of Medical Sciences A. Yakovlev reported on the use of neuroplegics (thorazine) and combined treatment of glaucoma with miotics and adrenalin (mesotone). The efficacy of application of thorazine as an agent which reduces the pressure, ^{has been established} particularly in the pre-operative preparation and with the aim of potentiation of anesthesia as well as in the presence of an acute attack of glaucoma for the purpose of intensifying the hypotensive effect of the miotic diamox.

Preliminary observations of the hypertensive effect of hyaluronidase introduced by means of electrophoresis and retrobulbarly, according to the data of the speakers, ^{as yet} have not produced any beneficial results. Tests of mesotone (a preparation similar to adrenaline) in combination with the miotics showed that it insignificantly increases the effect from the miotics. Professor P. Ye. Tikhomirov (Leningrad) shared his experience in the use of the operation of iridencleisis. On the basis of a careful analysis of his own observation and the material of a number of Soviet and foreign authors the speaker concluded that iridencleisis is a technically simple operation which gives ^{rise to} a small number of complications and much more often preserves vision; however, it does not exclude the need for looking for better methods of operative

treatment of glaucoma.

In his report "Iridencleisis and Gonioscopic Regulation in Far Advanced Glaucoma", Professor T. I. Yeroshevskiy and house physician L. K. Bobrova (Kuybyshev) reported on the results of the operation of iridencleisis performed in 45 patients with different forms and stages of glaucoma. Of these, there was a far advanced glaucoma with tubular vision in 19 patients. The late results, which were studied for three years, showed that the operation of iridencleisis did not return the intraocular pressure to normal in all cases. The visual field and visual acuity even improved in a number of cases [deteriorated in a number of cases?].

The speakers consider it necessary in all cases of glaucoma to resort to gonioscopic investigations which assist both in the selection of the operation and in understanding the various characteristics of the post-operative course.

Assistant A. F. Kornilova (Saratov) reported on the favorable results of the operation of iridencleisis in the author's modification, which provides an incision with a cataract knife and strangulation of only one slip of iris.

Professor B. V. Protopopov (Gor'kiy) shared his experience in the use of the operation of sclerocleisis (a type of filtering operation where the sclera is strangulated in the incision). The speaker also directed attention to the

expediency of a more extensive utilization of cyclo- and retrociliary diathermocoagulation, particularly in those cases where the filtering operations are not indicated for some reason or give no effect.

Professor A. N. Kruglov presented data concerning the operation of diathermocoagulation in far-advanced glaucoma in his report. It proved to be effective both in the sense of normalization of pressure and in the maintenance of function. Late results also are evidence of the favorable effect of cyclodiathermy on the course of glaucoma. The operations were performed on 55 patients.

Professor I. A. Sharkovskiy and I. A. Kulikov (Stalingrad), Candidate of Medical Sciences, reported on the beneficial effect of the operation of trephine cyclodialysis.

D. Ya. Vinnikova (Kuybyshev) and A. V. Popinova (Gorkiy) discussed the problem of the surgical treatment of painful absolute glaucoma.

Considerable statistical material containing an analysis of 985 glaucoma operations performed in the Eye Hospital of the Astrakhan Medical Institute during a period of 17 years was presented by Ye. F. Fedoseyeva. The most stable hypotensive effect is given by the operation of ¹scheral trephination. Study of the effect of a glaucoma iridectomy gives us the basis for the conclusion that both in stasis and simple glaucoma it more

favorably influences the visual functions than cyclodial-
ysis and scleral trephination.

T. I. Samsonova (Ivanovo), Doctor of Medical Sciences
shared his experience in the removal of senile cataract
in glaucoma.

The report by Professor T. I. Yeroshevskiy concerning
the operations of goniotomy and goniotomy in congenital
glaucoma was very interesting. At the present time the
speaker has at his disposal data concerning the use of
goniotomy in 60 patients and goniotomy in 21 patients.
He has created a new goniotome and has somewhat
modified the operation of goniotomy. In the report the
author described in detail the technique of it and the
results obtained. According to his opinion, both opera-
tions are operations of choice in congenital glaucoma in
its initial stages.

G. L. Bagmutova, A. R. Gordeyeva, and V. G. Abramov
reported on the results of dispensary care of patients
with glaucoma in Astrakhan, Stalingrad and Omsk.

An analysis of the statistical material, which num-
bers hundreds of patients with glaucoma, showed distinct-
ly the tremendous advantages of the dispensary service
method. For the purpose of unifying the records of
patients with glaucoma the speakers recommend creating a
card or passport for the glaucoma patients which would be

uniform throughout the Soviet Union.

At the Conference a resolution was adopted which reflected the specific suggestions directed at improving the methods of controlling glaucoma and the scientific development of this problem.

Conference of the Problems Commission of the Academy of
Medical Sciences USSR on Ophthalmology

by

E. N. Vil'shanskiy

On 22 October 1959 the Conference of the Problems Commission of the Academy of Medical Sciences USSR on Ophthalmology was held with the participation of the president of the scientific-planning board, I. V. Davydovskiy, Vice-President of the Academy of Medical Sciences USSR under the chairmanship of Professor V. N. Arkhangel'skiy, Corresponding Member of the Academy of Medical Sciences USSR. The Conference was devoted to the problem of myopia.

Ophthalmologists, hygienists and pediatricians of Moscow, Leningrad, Dnepropetrovsk, Odessa and other cities participated in the work of the Conference.

At the Conference problems of the occurrence of myopia, its course and prophylaxis were discussed.

Professor A. I. Dashevskiy (Dnepropetrovsk) gave a report, "The Current Status of the Myopia Problem". He noted

that whereas in a number of capitalistic countries a high percentage of cases of myopia continues to remain stable, noteworthy transformations in the Soviet Union, which have been achieved during the years of the Soviet regime, have led to a considerable reduction in myopia by comparison with the pre-revolutionary period. Afterwards, the speaker, talking about various theories of the origin of myopia, discussed the criticism of the reactionary theory of Steiger, who did not take into consideration the influence of environmental factors in the occurrence of myopia and based his theory as a whole on the hereditary transmission of myopia.

A study of the optic structure of ametropia and emmetropia has shown that ametropia can be weak, representing a biological norm (like emmetropia) or axial. The speaker suggested the following classification of refraction: primary refraction, in which category ^{there are} emmetropia and weak (no more than two diopters) hypermetropia and myopia; the latter are biological variants of emmetropia, associated with a variation in the optic corneal and lens elements, are not progressive, and, since they are normal stationary refractions, require only correction for the purpose of increasing the visual acuity. These are optic ametropias.

The secondary or axial hypermetropia is observed only in spheroidal eyes which have not completed their normal

growth. Secondary or axial myopia develops in those cases where the posterior hemisphere of the eye begins to bulge out under the influence of unfavorable external conditions and prolonged visual strain. Specifically, axial myopia, being a pathological type of refraction, is indisruptibly connected with unfavorable environmental conditions, and is of a progressive nature. Such myopia requires careful treatment and prophylaxis.

Successful prophylaxis of progressive myopia in adults consists of the elimination of it in children of school age--the principal sources of progressive myopia in adults. The speaker illustrates the actuality of this problem by the successful experience of prophylaxis of myopia in school children of a number of schools of Dnepropetrovsk, where it has been possible to reduce the number of myopes from 13.6 to 4.6 percent in six years by means of simple prophylactic measures. The Dnepropetrovsk Ophthalmological Society has adopted a resolution concerning the need for eliminating progressive myopia in the schools of Dnepropetrovsk in the next seven-year period.

In the report, "The Role of Heredity in the Occurrence of Myopia", A. A. Malinovskiy (Odessa) presented a review of the literature and pointed out that in the ophthalmological literature there is no clarity in this matter and that the abundance of contradictions does not make it possible

to draw any definite conclusions. The speaker considers the hereditary predisposition to myopia proved; however, this can be demonstrated only through the effect of unfavorable unenvironmental factors. Later, he discussed the influence of environmental factors on the development of myopia and pointed out that in certain geographical regions the number of myopes is very small. In connection with this, a careful study should be made of the geographic distribution of myopia so that in areas where it is not widespread the factors of the local climate may be demonstrated which, in the author's opinion, check the development of myopia. If these factors are found they will be a powerful agent for controlling myopia.

Docent K. V. Dormidontova reported on the results of the investigation of refraction and the visual function in the large group of children of pre-school age (from three to eight years). The investigation showed that in 26.5 percent of the pre-school children a function of the central vision is reduced. The main cause of reduction in visual acuity is hypermetropia of high and moderate degrees as well as astigmatism. The number of myopes among the pre-school children is extremely small, 1.2 percent.

In all age groups from three to eight years myopia remains at approximately the same level.

The speaker suggested that a regular examination be made of the visual organ and its functions in children at the youngest age possible with the aim of timely detection of refractive errors, astigmatism and the accomplishment of corrective measures. A more active preparation of pediatric oculists is needed in the medical institutes from the group of students of the sanitation-hygiene and pediatric faculties. The speaker suggested the creation of a single directive and consulting center for preserving the vision of children.

A. V. Roslatsev, B director of the Institute of Eye Diseases imeni Helmholtz reported on the considerable work being done by the Institute in the field of correction of the vision of those with poor vision, dwelled in detail on various methods of correction, pointed to the need for the soonest possible elimination of a number of deficiencies in the schools for those with poor vision.

Unfortunately, Professor N. I. Artem'yev could not come to the Conference and give the report "Myopia and the Environment". Sychev (Khar'kov), A. N. Nikolayev (Leningrad), Ye. V. Shevaley (Odessa) who spoke in the discussions dwelled in detail specifically on this problem. After pointing out that the influence of the environment on the development of myopia is tremendous those who spoke illustrated this thesis with numerous

observations, directing particular attention to the importance of ~~illumination~~ lighting. They all were in agreement in evaluating the role of poor illumination in the occurrence and development of myopia. In addition to this, the importance of alternation of mental and physical work in the schools was noted, and attention was directed to the fact that in a number of schools the instructions for not permitting the overloading of students with lessons are not being observed. The speakers stated that teaching children how to write on sloping lines is not justified, because this makes the children sit bent over to one side, which leads to the development of various deformities of the vertebral column; the distance from the eye to the notebook is less than normal, which creates an additional strain on the eyes.

Professor N. A. Pletneva in her report suggested that particular attention be given to the prophylaxis of myopia in persons suffering with a general weakness of the connective tissue (patients with hernias, hemorrhoids, weakness of the joints). After pointing out the importance in principle of dividing myopia into primary and secondary as suggested by Professor A. I. Dashevskiy, N. A. Pletneva noted that methods of determining primary and secondary myopia should be discussed in greater detail so that it might be possible to detect persons who need the necessary treatment more rapidly.

I. V. Davydovskiy, Vice-President of the Academy of Medical Sciences USSR, who participated in the work of the Conference, noted that for the purpose of successful solution of the problem of myopia the combined efforts of ophthalmologists, hygienists and pediatricians are needed. The principal problems should be noted and the problem of myopia should be decided purposefully rather than in general.

Professor N. V. N. Arkhangel'skiy, Corresponding Member of the Academy of Medical Sciences USSR, who presided at the Conference, presented the results of the work of the Conference.

The noteworthy resolutions of the Twenty-First Congress of the CPSU have made the solution of problems confronting us at the present time actual. The beneficent task of Soviet ophthalmologists of preserving the vision of children--the future of the Soviet Union--is obtaining the full support of the Presidium of the Academy of Medical Sciences USSR.

Soviet scientists have made considerable achievements in the prophylaxis and treatment of myopia. The group of the chair headed by Professor A. I. Dashevskiy, using simple measures for controlling myopia, have obtained beneficial results.

With respect to myopia as a type of refraction it

should be stated that the body has a tendency to reach an equilibrium and adapt itself to environmental conditions, and myopia, to a certain degree, is an adaptive reaction of the body. However, progressive myopia is a disease, against which it is necessary to fight and which should be treated.

As far as the hereditary factor is concerned in the occurrence of myopia, Soviet scientists have always taken progressive points of view, in contrast to foreign scientists, many of whom have frozen at the standpoint of the gene theory and believe that heredity is eternal and unchanging.

The participants of the Conference discussed and adopted a number of recommendations, which, along with the other material of the Conference will be published in a special collection.

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