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# **JOURNAL OF OPHTHALMOLOGY CASES & HYPOTHESES**

**Special Issue dedicated to the  
100th anniversary of the birth of  
Academician Zarifa Aliyeva**

Volume 4, Number 1, 2023

This edition of  
**Ophthalmology cases & hypotheses**  
is dedicated to the 100th anniversary of the birth of Academician

**ZARIFA ALIYEVA**

an outstanding Azerbaijani scientist, Honored Scientist, Doctor of  
Medical Sciences, Professor, Full Member of the Azerbaijan  
Academy of Sciences.

**Baku-2023**

**SPECIAL ISSUE**

## **The Order of the President of the Republic of Azerbaijan on marking the 100th anniversary of the birth of Academician Zarifa Aliyeva**

April 2023 will mark the 100th anniversary of the birth of Zarifa Aziz gizi Aliyeva, an outstanding Azerbaijani scientist, Honored Scientist, Doctor of Medical Sciences, Professor, Full Member of the Azerbaijan Academy of Sciences, will be celebrated.

Academician Zarifa Aliyeva led a meaningful life as a true intellectual with a rich spirituality and made significant contributions to the development of the medical field in our country with her comprehensive scientific activity. The authoritative works resulting from the scientist's long-term successful research on the topical issues of ophthalmology have always been duly appreciated and recognized. New and effective treatment methods and complex preventive measures proposed in these studies have been successfully and widely applied in a short period of time. The first research center of the school of ophthalmology in Azerbaijan, a specialized scientific research laboratory was established precisely on the initiative of Academician Zarifa Aliyeva. Zarifa Aliyeva, who always focused on medical ethics throughout her scientific and pedagogical activities, worked hard to train highly qualified personnel in the country and contributed to the emergence of a large generation of young scientists and ophthalmologists.

Guided by Item 32 of Article 109 of the Constitution of the Republic of Azerbaijan in order to ensure the celebration of the 100th anniversary of the birth of Zarifa Aliyeva, an outstanding ophthalmologist and scientist who made significant contributions to the development of medical science in our country, I hereby order:

1. The Ministry of Health of the Republic of Azerbaijan together with the Azerbaijan National Academy of Sciences shall prepare and implement a plan of events to celebrate the 100th anniversary of the birth of Academician Zarifa Aliyeva.
2. The Cabinet of Ministers of the Republic of Azerbaijan shall resolve issues arising from this Order.

**Ilham ALIYEV**  
**President of the Republic of Azerbaijan Baku,**  
**3 November 2022**

## NATIONAL CENTER OF OPHTHALMOLOGY NAMED AFTER ACADEMICIAN ZARIFA ALIYEVA

National Ophthalmological Center named after Academician Zarifa Aliyeva, the leading ophthalmological center in Azerbaijan, where all types of diagnostics and treatment of eye diseases are carried out using the most advanced technologies, as well as scientific work is carried out on the most pressing problems of ophthalmology. Departments covering all fields of ophthalmology and highly qualified specialists operate in the center. It is one of the largest ophthalmological and scientific centers in the East.

The center is headed by Academician, Professor Elmar M. Kasimov.



Academician, Professor  
Elmar M. Kasimov



Buildings of the National Ophthalmological Center





The center hosts various scientific conferences annually.



Editors and members of the Editorial board of the journal “Ophthalmological Cases and Hypotheses” (Oner Gelishken MD PhD, Narmina R. Hajiyeve MD PhD, Pasha Musayev Galbinur MD PhD, Rasim V. Hajiyeve MD PhD.) at the next conference in the center named after Academician Zarifa Aliyeva .

## A LETTER FROM THE FOUNDING EDITOR...MEMORIES

Rasim V. HAJIYEV

*Professor of Department of  
Ophthalmology, Azerbaijan State  
Institute for Postgraduate Medical  
Education,  
Director of HAT Medicine Clinic*



*I met Zarifa khanum in 1978. At that time, she was recruiting a group of young ophthalmologists, and I was recommended to her. I remember the first time I met her, when she gave me a little exam in ophthalmology. I passed this exam and she hired me. My duties included examination and treatment of patients, preparation for lectures given by Zarifa Aliyeva. These were informative lectures, which were listened to with interest not only by me, but also by cadets from different cities of the Soviet Union. They called these lectures “colored” because they liked them. She was an excellent scientist, able to consider the topic of research from all sides and draw the appropriate conclusions. For example, before it, the cause of diabetic retinopathy was associated directly with damage to the vessels of the retina. She also proposed the following idea: since the vessels are connected directly with the glial cells of the retina, it is possible that the vessels suffer due to the defeat of these cells. She suggested this topic to me. In 1982, for the first time, she co-authored with me an article on this topic.*

*The article talks about the primary lesion of Muller cells in the pathogenesis of diabetic retinopathy and the possibility of using vitreotechnics techniques to stabilize the course of diabetic retinopathy in the future. At that time, diabetic retinopathy was treated with Doxium, and vitrectomy was done only for hemophthalmia. Further research confirmed her assumptions. Indeed, studies have shown that Muller cells are affected first, and then retinal vessels.*

*Her contribution not only to national ophthalmology, but without exaggeration to world ophthalmology is great:*

*A) She first suggested, and then it was confirmed, that the cause of diabetic retinopathy is the defeat of the Muller cells of the retina, and only then the vessels are affected. This made it possible to consider the treatment of this formidable complication of diabetes from a new perspective.*

*B) For the first time she raised the issue of professional pathology of the organ of vision. On the basis of her work, a number of technological processes were modernized. This allowed to reduce the risk of negative impact on the vision of workers in a number of industries.*

*C) She has compiled a number of guidelines for ophthalmologists. There are so many of them that it is impossible to list. I would like to focus on the Therapeutic Ophthalmology manual, co-authored with N.B. Shulpina. For many years this guide has become a reference book for many ophthalmologists.*

*D) She prepared a manual on the Ethics of Doctors. This is very important not only for ophthalmologists, but for all doctors.*

*E) Based on the research of Zarifa Aliyeva, a monograph "Eye diseases in diabetes mellitus" published.*

*The National Ophthalmological Center of Azerbaijan proudly bears the name of Academician Zarifa Aliyeva.*

## EDITOR'S LETTER... MEMORIES

### Dr. Sunay DUMAN

*Member of the Editorial board  
of the «Ophthalmology cases and  
hypotheses»,  
Honorary President of Turkish  
Ophthalmological Association,  
Turkey*



*This article is adopted to the memory of a lady who devoted her life to her homeland, family and profession. Academic Zarifa Aliyeva was a leader who managed her intelligence and genius well ahead of her time. She was a teacher who created a future for young people, directed them and could raise many innovative and qualified people. In addition, he was also a successful scientist who was able to protect public health and eradicate scourges such as trachoma. She was one of the pioneers of evidence-based medicine and was aware that industrial substances cause occupational diseases. Furthermore, she conducted several successful scientific studies in large industrial establishments with integrating laboratory research. The USSR Academy of Medical Sciences awarded her the Averbah Award for these works as the first woman to receive this award. Among her precious contributions with monographs, textbooks, and ophthalmology books and publishing of around 150 articles, she cared about professional ethics, medical ethics, and deontology as much as professional education of physicians and also wrote a guidebook on this subject. Many qualified scientists have been trained during her leadership. She always worked with passion and became a role model for the succeeding leaders. Zarifa Aliyeva's students adopted her vocational education-development and modernization roadmap after her passing.*

*The ophthalmology institute that was built on the solid foundations and principles laid by Zarifa Aliyeva had continuous progression and became a clinic where all current services and branches can be provided and competent ophthalmologists are trained. This progression eventually had its reflections with an increasing number*

*of evolving publications, experts in all branches of ophthalmology, and continuous education on a national and international basis. The institute pioneered the establishment of the Journal of Ophthalmology and later the Ophthalmology Cases & Hypotheses e-journal. This difficult path full of hardships has been overcome today with gratitude, loyalty, and determination. Zarifa Aliyeva's dreams of modernization in the field of ophthalmology became true with her faith, dedication, contribution of the scientists, and support of the state funds, and most notably due to united forces of all members of the institute. The burden of increasing and aging population together with global warming, climate change, air pollution, and carbon footprint has also started to affect ophthalmology. Our new agenda comprises cataract surgery, myopia, sustainability, regenerative ophthalmology, and artificial tissues. Now is the time to look forward to 2050s, discuss telemedicine, teleophthalmology, artificial intelligence and robotic surgery, and plan for the future from this day.*



## A MEMORY LETTER ...

Tahir MIRZOYEV

MD USA, Miami, FL



*Back in 1977 I was very lucky young specialist! Upon graduation from the Azerbaijan Medical Institute in 1976/77, I was assigned for the internship to the 4th Hospital in Baku. In a few weeks I received an offer to join the research project to study the processes of erythrocyte aggregation in patients with myocardial infarction in the department of internal diseases. The head of the department was Prof. Tamerlan Azizovich Aliyev, MD. While developing a new technique to photograph erythrocytes in the eye capillaries in vivo, we collaborated with the Department of Eye Diseases of the Azerbaijan Doctors Advanced Medical Institute. The Department located on the floor above ours. This is where I met Prof. Zarifa Azizovna Aliyeva, MD for the first time. During our collaboration, I became familiar with the fundamental research works of Prof. Z. Aliyeva on eye diseases under chemical production conditions. I have been impressed by these studies, as well as by the works on development of the effective methods to treat and prevent these diseases. The chemical industry in Azerbaijan has been rapidly developing and the early diagnosis of the occupational diseases was one of the important biomedical problems of our society. Prof. Z. Aliyeva mentioned that eyes are very sensitive organ and study of the physiology and vision functions allows to identify early forms of general intoxication. One must take necessary medical actions to prevent development of professional pathology. But the professional intoxication of eyesight was not studied enough on that time. I understood Prof. Z. Aliyeva message. The development of the early diagnose and the prevention had great social and economic impact. This message has become my guiding star in my further research activities. In 1979, Prof. Zarifa Aliyeva established the first specialized research laboratory to study*

professional pathology of the vision. This Lab was a unique. It was located directly at the production facility, the air conditioners plant. The Lab worked under the Institute of Physiology of the Academy of Sciences of Azerbaijan. The laboratory was equipped with modern high tech ophthalmic and electrophysiological diagnostic devices and tools. There were 3 sections: clinical section to study the state of eyesight, functional-diagnostics section to examine the functions of eye and brain, and surgery section. The Lab worked under leadership of Prof. Zarifa Aliyeva, and supervision of a senior scientist, Prof. Mamed Yusufovich Sultanof, MD. The research team also consisted of Dr. Svetlana Talishinskaya, MD, an ophthalmologist. She had great skills and extensive clinical practice, and two young, but very motivated, enthusiastic and ambitious doctors: Nazim Tagi-zadeh, MD and I, Tahir Mirzoyev, MD. I was the last one who was invited to work in the Lab. When Prof. Zarifa Aliyeva was looking for personnel for the new laboratory, I just completed my internship and the research project in the department of internal diseases. I already received some of the research skills and had good training in examining eye functions. Thanks to Prof. Zarifa Aliyeva I received all my knowledge in the Department of Eye Diseases. After a very nice conversation with Prof. Zarifa Aliyeva, I decided to join to the research team worked on a new field of ophthalmology – professional ophthalmic toxicosis. Per Zarifa Aliyeva advice, I engaged in the study of functional changes of the vision under the influence of chemical vapors used at the plant. We have examined about 2000 people using modern research methods, some of them, were electrophysiological studies of the eyes, and were used in Azerbaijan for the first time. The huge clinical and experimental data was obtained as a result of many years of the research. Based on deep analysis of these results, new methods of monitoring and preventing of early pre-clinical toxic manifestations were developed and recommended into practice. I think that I am very lucky, that fate gave me the opportunity to meet and to work with Prof. Zarifa Aliyeva. With her guidance, I gained a brilliant experience in research work and huge medical knowledge. Which I used it throughout my career. In 1992, I had moved to another country where I confidently continued my career in medical research working in the best hospitals and medical centers in New York. The knowledge and medical experience that I gained from Prof. Zarifa Aliyeva, who was an excellent teacher, a doctor, an experienced scientific researcher, and a leader, helped me a lot to continue my medical career overseas.



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## **Ophthalmology Cases & Hypotheses**

Volume: 4, Year: 2023, Number: 1

### **Special Issue dedicated to the 100th anniversary of the birth of Academician Zarifa Aliyeva**

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For this special issue authors have prepared their own manuscripts attending to content, grammar, language fluency, and formatting. Any errors may be discussed with the authors.

# Ophthalmology Cases & Hypotheses

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*The establishment of the journal "Ophthalmology Cases and Hypotheses" is an important practical step of consolidation of the scientists' potential and research centers of the Turkic world working in this field, as it provides new opportunities for the publication of the best achievements of ophthalmologist of Turkic countries, increasing of their recognition in the world of science and close cooperation with the International scientific community. This semiannually journal publishes high-quality peer-reviewed research papers on the broad range of clinical and scientific ophthalmology.*

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