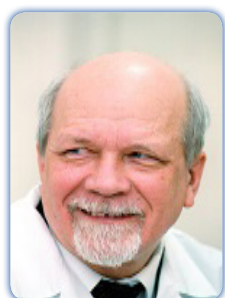


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### A novel method for treating inoperable congenital and age-related cataracts

A novel method for treating inoperable cataracts has been proposed based on using a solution of dimephosphon whose active ingredient is dimethyloxobutylphosphonyl dimethylate. The medication has anti-oxidative and anti-inflammatory properties and stabilizes cell membrane functions. It increases blood flow and metabolism within the lens and improves protective functions of the eye. Treatment with dimephosphon was provided to 43 patients; five of them were children aged 2-3 years who received a 2% dimephosphon solution (eye drops) to treat bilateral congenital cataracts, 1 drop 4 times a day. One patient was diagnosed with Weyers-Fulling syndrome accompanied by bilateral polymorphic cataract and microphthalmos. Cataract surgery in such children is ineffective. Other children with bilateral congenital cataracts also had bilateral microphthalmos. The patients were denied surgery because of its low efficiency. Among the patients there were also elderly people (age 85 years and over) with cataracts who were treated with a 5% dimephosphon solution (eye drops), 1 drop 4 times a day. The initial change in blood flow in the vessels of limbal vascular plexus occurred 10 minutes after the drops were administered and lasted for up to 2-2.5 hours. The change in blood flow was recorded by a thermal imager. The first effects were observed 6 months after the beginning of treatment; a weak light response appeared. Parents continued giving medication to children for over 1.5-2 years. One child had reverse cataract growth, the other had partial cataracts. Similarly, vision of elderly patients improved, e.g., a 98-year-old female patient could watch television 6 months after the treatment started. The latest advancements in nanotechnology allow the use of medications that will improve quality of life for patients for whom cataract surgery is contraindicated.

### Biography

Victor V Sevastyanov is the Head of the Center for Speech Pathology and Neurorehabilitation of Neurosensory and Motor Disorders and Professor of the Department of Radio-Technical and Biomedical Systems at Volga State University of Technology. He holds an MD degree from I.M. Sechenov First Moscow State Medical University and MSc degree in Radio Engineering from Ryazan State Radio Engineering University. He conducts research into the issues of the optic nerve regeneration and investigates the processes of neuro-restoration of the optic and auditory nerves. His research interests also include electro-stimulation of neuromuscular tissues with multi-channel portable electrical stimulators, prevention of oxygen deficiency and hypokinesia in astronauts during long-term space flights. He holds 10 international patents.

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