

Original Articles

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Years later. Ilizarov (to the 100th anniversary of his birth)

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There has been a huge interest in the personality of Professor G. A. Ilizarov, a talented scientist and inventor, an outstanding doctor, a Man with a capital M, a man of peace, as they now say about people whose contribution to the development of society is of enormous importance on the part of scientists, writers, and journalists and it remains popular nowadays, when he has not been among us for almost 30 years.

Many of his followers, former fellow workers, have written many articles and books about Gavriil Abramovich over the years describing his scientific, medical activities, his human qualities. Many of them are objective writings filled with gratitude to this great man. There are articles and videos misrepresenting actual facts of his life that cannot be proven by anything. I do not intend to be exhaustive about his role in science, society and the Center he established and would like to make a deep bow to Professor Ilizarov giving his character description that reveal attitudes of patients, doctors, researchers towards him, his numerous students, his unique abilities, phenomenal memory, efficiency, love for his profession, the cause that he served.

Following D. Paley's article on The Ilizarov technology revolution: History of the discovery, dissemination, and technology transfer of the Ilizarov method published in Limb Lengthening and Reconstruction Surgery Journal in 2018 I asked him a few questions regarding descriptions and commentaries about G.A. Ilizarov and his answer was, 'This is my point of view. And what kind of person was he for you, for those who worked with him in Kurgan?' And this article can be an answer to the question posed by D. Paley.

Talking about Gavriil Abramovich is both easy and difficult because he was very different, but the main thing is that he did not leave anyone indifferent when communicating with him. Despite the pathos of today's event I would not like to use general words about Professor Ilizarov but to recall some interesting and instructive episodes from that time, featuring Ilizarov as a talented and unique scientist, a highly professional orthopaedic surgeon, a persistent and ambiguous person.

Professor G. A. Ilizarov established the largest orthopaedic Center (KNIIEKOT) in 1971 developed from a basic research laboratory (1966), a branch of the Sverdlovsk, then Leningrad Institute of Traumatology and Orthopaedics and administrated it until 1992, for more than 20 years. That was a relatively short period when a unique external fixation device was made available for Soviet and later for global orthopaedic and trauma community and could be successfully used for the most challenging pathologies. In addition to that, a number of scientific disciplines received a new impetus for the development based on a new philosophy of the Ilizarov method with the role being immeasurably deeper than the frame that had been originally devised as a set of Ilizarov components. The questions of complexity handling the Ilizarov apparatus, patient's discomfort with frame on, longer inpatient period that is not in line with modern principles of healthcare organizational performance has been discussed over the past 10 years. Nevertheless, many trauma and orthopaedic subspecialties are still adynamic without the use of the techniques developed under the leadership of G.A. Ilizarov, and the Ilizarov apparatus and method often remain the method of choice for patients and doctors.

Few people know what were the challenges the Ilizarov method had to embrace and obstacles it had to overcome in Russia and worldwide. A list of scientific boards, meeting and conferences might have been incomplete to include all lectures and presentations that were demonstrative enough about conclusions of the expediency of the external fixation device offered by G.A. Ilizarov in 1951. In the West, the process appeared to progress faster. In 1982, the Association for the Study and Application of the Methods of Ilizarov (ASAMI) was established in Lecco, Italy, and Medicalplastic, an Italian company licensed the Ilizarov technique in the USSR started to produce and market the Ilizarov apparatus in 9 Western European countries in 1983. In 1987-1988, the Ilizarov method was also discovered by American orthopaedic community. Having acquainted with the Ilizarov method Victor Frankel, Professor of the Hospital

for Joint Diseases commented in 1989, “Edison persisted and we have light, Newton persisted and we have laws of mechanics, Ilizarov’s persistence led to new biological regularity of bone growth and regeneration”.

There were legends about the efficiency of Gavriil Abramovich, and he used to work for 18-20 hours per day conducting experiments, reviewing the literature, performing consultations and surgeries for patients to establish the benefits and possibilities with the method of transosseous osteosynthesis. He never left his office if there was a patient who needed his advice, an urgent issue to be settled, important papers to be scrutinized, questions from the staff to be answered, a new article to be looked at. Year upon year. He never cared about rest, he had no knowledge of that. He was extremely interested in retrieving new data on morphology, biomechanics, biochemistry, clinical cases, and the work would replace everything for him. In rare leisure hours, during his trips abroad, in particular, he always found an excuse to open up the slide boxes to look through the slides, clinical cases trying to create more informative presentation. It pleased him so much since the presentations contained the unique material obtained through many years of experience and researches.

Although there is no statistical report showing how many patients were seen by Professor G.A. Ilizarov, we can suggest there were hundreds of thousands because some days, more than a hundred patients could receive consultations at the Centre and get an opinion from him. Every time he moved to Moscow or any another city his hotel room at night was full of people who were eager to get his opinion and receive treatment in Kurgan.

He was also preoccupied with numerous consultations during his trips abroad, and would perform a surgery for a patient outside the Center if there had been no surgeon who could have performed a proper postoperative care. He scrupulously examined the patient to identify a specific technique making multiple schematic drawings and experimental paper models. He could never understand clinical negligence, malpractice, untimely examinations and think of complications. He used to say

the patient would ever present with complaints for no reason and experience pain with the properly mounted frame. His approach to indications became more strict with the opening of commercial clinical unit at the Center. One case can be illustrative. A 25-year-old lady, professionally engaged in fashion industry wanted to increase her height by 6-7 cm. Her first visit happened to be in my presence. She was a very beautiful woman with ideally shaped legs. I can imagine what it was like for Professor to take a decision of a surgery involving an osteotomy, a frame to be followed for several months of treatment. She was instructed about all the details but was strong-minded. The patient was admitted to the hospital, made payments, and got cold and was feverish a day before surgery. Unexpectedly, Gavriil Abramovich was pleased to learn about her condition asking to, Get her discharged! Shortly! Although he felt confident about any procedure he was unwilling to produce interference for ideally shaped legs. But he had to. The patient shortly recovered and underwent surgical procedure that resulted in a good outcome.

Ward rounds he often made in the evening or even at night might be strange for many people, and he was a very busy person and was involved in the establishment of an All-Union Center and construction of a new building of the hospital, preparations for orthopaedic meetings, and he could see patients when the phones went silent and governmental institution working hours were off. He was interested in every clinical case, but children's orthopedics was always the priority for him. Gavriil Abramovich could well communicate with the children who received treatment in the Center and take their concerns seriously respecting their viewpoint and encourage them to do exercise therapy. His contribution to the development of pediatric orthopedics was awarded with the "Order of the Smile" in Poland (Fig. 1).

To come up with a new technique, a new method of treatment, a new device was a constant need for Professor Ilizarov, and patent specialists were often invited to the operation theater to fix an innovation (osteotomy, frame assembly, technique).



Fig. 1 Among kids at pediatric orthopaedic department. Awarded with the Order of Smile, Poland. Drinking a glass of lemon juice without wincing

G. A. Ilizarov is the author of 217 patents, copyright certificates, which are widely used today. The first large-scale monograph by G. A. Ilizarov was brought out in 1991 involving the efforts of almost the whole staff of the Center, and the English version was edited by Professor S. Green (USA). Professor V. I. Shevtsov and me were instructed to prepare the final version of the monograph and submit the slides to the Springer-Verlag publishing house in Germany (Heidelberg). A copy of the unique monograph with the signature of Gavriil Abramovich was presented to Professor Vladimir Ivanovich Shevtsov, Alexander Nikolaevich Diachkov and me.

Undoubtedly, a lot has changed in 29 years, but the basic method, the universal apparatus allows improvements, modifications and combinations. The genius of Ilizarov was that he invented a device that could be used and improved by any orthopaedic surgeon who understood the role and capacity of the method of transosseous osteosynthesis.

Everyone remembers what the relationship was like in the Center at that time and they were largely maintained when V. I. Shevtsov became the director. Everyone knew each other, attending regular meetings of scientific board, hospital meetings, ceremonial events, symposiums at laboratories and understood the importance of teamwork and the need to work together.

Gavriil Abramovich appreciated discussions with colleagues and everyone who wanted to meet him, talk over new ideas, problems, show an article, could do so

if not immediately, after a few days, even weeks, but no one was denied. He often arranged gatherings of doctors and researchers and spent hours giving considerations to new methods, upcoming meetings, relations with foreign companies, construction of a new building of the Center. The details were discussed with the doctors, and not only with the administration (Fig. 2).

Many reproached Ilizarov for "night gatherings", long discussions of various issues, but how many new ideas were born at that time, how much knowledge and expertise young scientists and doctors could receive! And the preparation of new presentations were arranged with 5–6 people in the office, selecting slides, writing texts, new slides just printed in the photo lab arriving to the office with a duty car, and were immediately collected into a presentation and the team came up with the best way to photograph the new assembly or the patient to show all the advantages of the method.

In 1979 Academician G. A. Ilizarov established Educational Trauma and Orthopaedic Department to teach techniques of transosseous osteosynthesis, and around 11,000 doctors could receive training in the Center since that time. The first International Courses on the study and application of the Ilizarov apparatus and method were held in Longon al Segrino, Italy in 1983. It was very prestigious, interesting and informative to attend an Ilizarov training course or a fellowship at the Kurgan Center, and many specialists were proud to say that they studied at KNIIEKOT and learnt from G.A. Ilizarov (Fig. 3, 4).



Fig. 2 Discussing a clinical case



Fig. 3 The first training course arranged for American orthopaedic surgeons, 1988



Fig. 4 Italian doctors sharing their impressions of the visit to the Kurgan Center in the guest book

Ilizarov was often asked, 'Why do you teach so many surgeons? Once you can find yourself without job.' 'It can never happen,' he replied 'While they learn what we have developed, we will think of something new.' Ilizarov was pleased to welcome new orthopaedic residents, fellows, consultant orthopaedic surgeons to the training programs in Kurgan and looked forward to their unique contributions (Fig. 5).



Fig. 5 Meeting Professor O. Chech, who started using the Ilizarov method in 1973

One of the publications described Professor G.A. Ilizarov being illiberal of competitors, and when employees reached a certain level, he did everything to make them leave the hospital. Those who could not achieve what they were striving for, or wanted autonomy had to leave the hospital, and rightly so.

It was not that easy to work with Gavriil Abramovich. He wanted to co-work with individuals with maximum dedication, efficient, creative, and extremely frank. To tell a lie was almost a sentence, and a person was no longer trusted. It was better to concede a mistake and then count on understanding and trust. He was extremely tough in negligence cases of poorly prepared case examinations, non-performance, undue or partial performance of the work, uncommitments. He was always pleased with adequately prepared radiographic views and anamnesis data collected with high care and concern for case discussion.

It would be an exaggeration to say that he was directly involved in writing all the articles published with his name, but he used to develop ideas and concepts and carefully read, revised most important original articles.

And he never put his name down for material that was not related to it from a scientific point of view. This was the situation with my doctoral dissertation, when I came up to him to have the documents signed for the Dissertation Council. Gavriil Abramovich said that he did not help me with the work and could not be considered a consultant. He spent a lot of time preparing new reports and was happy to have interesting illustrative slides and accurately formulated thoughts. I remember several presentations he prepared for a trip to Italy in 1987. He met Professor B. Nuvakhov in Moscow and asked him to listen and listened carefully himself, following intently the slides when the lectures were given late in the evening, almost at night and was really pleased with them commenting: "Look at the slides!"

One can give a lot of evidence of his ability to quickly grasp and remember everything. He remembered hundreds of patients, X-rays, interesting cases, facts, and could discuss different topics at the same time.

One of the first articles I wrote about the condition of fascia during limb lengthening was read out by Ilizarov who made several comments including one asking to replace a word he did not like. Given his busy schedule I could visit him six months later with the revised version of the article with the word unchanged. He started reading the paper, got to that word and said, 'I asked you to fix it!' He could remember the comment he had made six months earlier with dozens of articles, presentations, reports written, thousands of patients seen inbetween.

Once we couldn't find a radiograph of a patient with tibial fracture and decided to make a slide with an absolutely similar injury. It was late in the evening, more than a thousand slides had been viewed, and when came up to the one we suggested, he said, 'This is not the right X-ray!'. The comment came after 18 working hours of a tired middle-aged man who had performed several operations, saw patients, had discussions with the staff and meaningful talks.

Since 1982, Professor G. A. Ilizarov participated in numerous meetings, congresses and symposia in Italy, France, Germany, the United States, India, Poland, Czechoslovakia, Brazil, Cuba, the United Kingdom, and many other countries (Fig. 6).



Fig. 6 In 1982, the Association for the Study and Application of the Methods of Ilizarov (ASAMI) was established in Lecco, Italy with Professor R. Cattaneo as President (behind Ilizarov). Sitting next to Ilizarov is an interpreter, Marinella Combi

His presentations and lectures enjoyed constant success and interest among doctors who listened to him but for 2-3 hours instead of 10-15 minutes, with a huge number of questions because many Ilizarov applications seemed absolutely fantastic.

When we gather for any occasion, we always remember interesting and sometimes funny episodes happened to Gavriil Abramovich. Here is one of them. A trip to Jordan and Israel was scheduled one after another to attend orthopaedic meetings. A return flight Moscow – Amman was booked first to be followed by the next return flight Moscow – Tel Aviv. Gavriil Abramovich suggested they could cross the bridge over the Jordan Rive in Amman to get to Israel instead of taking a flight back to Moscow and then to Tel Aviv. I made an enquiry about the crossing the bridge route with the colleagues in Amman and Tel Aviv and received a negative answer from bewildered members of the organizing committee. Gavriil Abramovich persisted, and both sides agreed with the traveling option after numerous negotiations. A car with the ILIZAROV sign was supposed to be waiting for him on the Israeli side. What was the surprise of the Israeli military officers who saw two persons (Professor V. I. Shevtsov accompanied him in the trip) getting out of a car at the Jordanian side and crossing the bridge holding suitcases in the hands. The guests presented passports with Israeli visas, passed through several obstacles but could not find the car. Gavriil Abramovich wanted to go back but there was no way for them to return to Jordan, and they went ahead. They could finally find the car after long transitions, inspections and passport checks. Congress agenda was saved.

A lot has changed over the years, new materials and new devices have been devised, but "the Ilizarov

method remains one of the most important achievements of orthopedics of the XXth century, along with total joint replacement, endoscopic surgery and spinal surgery, while carrying the greatest philosophical load" (R. Michel, 1996).

P.S. And what kind of person was Ilizarov for you, for those who worked with him in Kurgan? The question was posed by D. Paley, a famous American surgeon, who wrote an article about Professor Ilizarov that raised some questions about interpretation of some facts from his life history. As B. Shaw put it, 'There are great people among little men, and there are great people among great people.' Professor Ilizarov was the greatest man among the greatest men. But he was also a normal human being who lived in the midst of the problems of the society, problems that he had to solve a hundred times more than all the others who lived next to him. And as a common individual he could be wrong, as the Spanish proverb goes, 'Como distael oriente del occidente, Asi aleja de nosotros nuestras rebeliones', 'As far as the east is from the west, so far are our sins from us'. This can be applied to all people, since God forgives our sins, and even more so, it can also be applied to Ilizarov, since what he has done for people is much more immeasurably greater than his shortcomings. Patients, his students, and colleagues remember Professor G. A. Ilizarov and this is evidenced by many facts and documents, museums and exhibitions. "Healing Art" Exhibition was dedicated to the personality of Professor Ilizarov in paintings and photographs and held at the Kurgan Regional Art Museum (Fig. 7).

The famous Russian writer S. Dovlatov said, '*A genius is an immortal version of the common man.*' This is about Ilizarov...



Fig. 7 Exhibition 'Healing Art'

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