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”The Other” Critical Medicine of the 21st Century-The problems of Treatment (Tbilisi,Georgia)

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The Georgian Critical Care Medicine Institute has developed “The Other” Critical Medicine In 21st century. There are use the Internet system of the Critical Medicine services and new type of medication in recent years, it penetrates the body through sensory organs, in this case, through auditory analyzer. Olsou, here would be used in the treatment process of the critical patients the progenitor precursor committing, the plasmapheresis, the immunosorbition, the nanotechnological drugs and some novel methods. Therefore, the following sign of “The Other” Critical Medicine should be looked for in the psychological research of critical patients, the postponement of death and preservation of life and some different problems.

Key Wordes : Critical Medicine, The 21st Century, The problems, Treatment, Internet, Nanotechnologies, Innovations. Progenitor precursors, The bone marrow, The psychological research, T-lymphocytes, ”The code of Death”, ”the Factor Death”. Anatoxsin, Immunoglobulin.

The research started in the 80s of the previous century. The Academy of Sciences of the Soviet Union considered it a priority research direction in the field of fundamental medicine, while the State Committee of innovations of the USSR proclaimed some parts of it as invention and rendered them confidential. Then, in those distant years, we that the forthcoming 21st century would be the renaissance era. Unfortunately, it’s almost two decades since the start of the 21st century, but the signs of renaissance are nowhere to be seen. However, we stand beside our belief and hope that, if not in its entirety, the progress can be achieved at least in some spheres. And, as an expression of this belief, I would like to present the new vision of the healthcare system service that represents our specialty and is known as critical care medicine. Moreover, defining the prospects for the development of this specialty comprises one of the responsibilities of Georgian Critical Care Medicine Institute,

1. In 21st century the Internet will play a major role in the activities of healthcare services, including the Critical Medicine services. This will render the Critical Medicine services more transparent and open. In this regard, Georgian Critical Care Medicine Institute was one of the first to use Internet facilities in the treatment process of the critical patients. The institute has created and introduced since 90ies years last century the information-diagnostic system that enables monitoring of each patient of its clinic in an on-line mode from any place. It provides the telemetric image of the patient and any other parameter concerning his/her condition as well as history of the disease. The system is operating in the two-way dialogue mode and provides uninterrupted communication with the medical personnel. It also facilitates seeking different opinions and enables international discussion of treatment of each patient. It also provides an access to the patient’s kin to on-line observe his/her condition and follow the treatment process from home. The system can also be used for the scientific-research purposes and expert work. With the progress of the globalization the Critical Medicine services of different countries can unite into global regional centers and the treatment of the critical patient can become the topic for the international interest. The regional management of the treatment processes will increase its quality and diminish its price. Thus, the different sign of “The Other” Critical Medicine of the 21st century is the transparency of the treatment process with internet. and its management from regional centers.

2. However, the treatment process in the 21st century of Critical Medicine itself will also be peculiar. Moreover, it will be equipped with drugs that differ for the existing ones by their form and technology. Currently, the majority of the drugs, including those manufactured by nano-technologies, are the products of chemical substances and are rather expensive. Georgian Critical Care Medicine Institute has developed a fundamentally new type of medication in recent years, it penetrates the body through sensory organs, in this case, through auditory analyzer. The form of this new drug is a word or sound waves. The

functioning the auditory analyzer, due to its constitution, ends the latest compared to other analyzers. Out of the medications based on the sound waves Georgian Critical Care Medicine Institute has researched the impact of orthodox prayers and chants, classical and light music as well as sounds produced by audiometer on the treatment processes of unconscious patients. The sound waves were made available to these patients through the headphones. The findings in the main group patients show improving trend in cerebral blood circulation and electric activity, increased levels of CD-8 lymphocytes, CD-34 stem cells, endorphins, dopamine, oxytocin and IL-10 concentrations, and decreased level of serotonin in blood and cerebrospinal fluid. These changes were significantly increasing when the medical staff was also listening to the prayers and when the latter were chanted by the priests. Due to small number of observations the difference between persons understanding and not knowing Georgian language, as well as Christian and religion patients has to be identified. The effectiveness of other religious chants similarly has to be studied. The mortality rate of the main group patients has decreased by 5,4%, the number of the bed-days reduced by 7,8% and the cost of the treatment – by 13.7%. This indicates that exposition of the sound waves of different frequency and amplitude with different time-spans have different pharmacological impacts. It should be noted that this research as well as others conducted in Georgian Critical Care Medicine Institute have certain significance for cosmic medicine and can be effectively used in military medicine. Moreover, the management of such therapy is much easier than of substance-based drug therapies. This somehow proves the words of Mahatma Gandhi that “Prayer is a mighty weapon” and indicate that the one of them sign of “The Other” Critical Medicine” should be the creation of new forms of drugs originating from sound waves.

3. Apart from sound waves the critical medicine of the 21st century will be equipped with plenty of other innovations. The would be progenitor precursor committing. This method of treatment was created in Georgian Critical Care Medicine Institute and it implies management of the process of differentiating stem cells in the human body. The characteristic feature of this method is that it enables influencing the stem cells in the body, without extracting them from the organism. The decades of research on the bone marrow during the critical conditions enabled Georgian Critical Care Medicine Institute to create such device. It should be noted that studies in this direction were not available before that. The conducted research revealed the changes developing in the bone marrow during the process of dying and different means for correction of these changes were tested. As a result, the role of electricity, plasma rays and other means in management of stem cells maturing was determined and devices “Georgia – 1”, “-2”, “-3”, “-4”, and “-5” were manufactured. Their healing effect in treatment of critical patients was confirmed. Moreover, using these methods of treatment, majority of which is patented, is possible for treating a number of other diseases. Currently, we are at the stage of facilitating their serial manufacturing. It is known, that during the critical condition areas of necrosis are emerging in the target organs. Over time these areas are replaced by connective tissue, which fails to completely replicate the existing function. However, this function is more or less preserved in the areas adjoining the locus of necrosis. Hence, the goal of the current treatment is to preserve the cells in such paranecrosis condition and restore their functionality. The managed process of differentiating progenitor precursors enables replacement of necrotic cells with ones specially generated through progenitor precursor differentiation. This creates the whole new perspectives in treatment of diseases and pathological processes. In this connection, the progenitor precursor committing method elaborated in Georgian Critical Care Medicine Institute looks like a serious device that can be used as an different instrument to be utilized by the 21st century “The Other” Critical Medicine.

4. The one of them different sign of “The Other” Critical Medicine is study of endogenic toxemia. There syndrome often determines results of the critical patient’s treatment. Toxemia intensively greatly depends on critical state’s sort, stage, complications, conducted treatment and many other factors. Nowadays, it seems incredible choose the optimal treatment regime for critically ill patients without permanent study of endogenic toxemia. Unfortunately, diagnostic methods of the above-mentioned syndrome are complicated, long-term, labour consuming and expensive, what prevents their applications in everyday life of critical care clinics. Proceeding from the mentioned elaboration of this sort of research methods will be a significant help for critical care units in treatment of critically ill patients. The method described

bellow was based on the effect of spontaneous rosette-forming reaction with blood plasma of critical condition patients. The optimal methods of treatment of endogenic toxemia is plasmaferesis or immunosorbtsion. Discreet method of Plasmaferesis including filtration small volume blood (500-100oml.) every day during 3-6 days. Immunosorbtsion retain the „knowledge” even in extracorporeal blood circulation and was able to selectively isolate pathological components – staphylococcus microbes and other toxin’s antigens from the body. The new type immunosorbent, with matrix was used activated biogel (Bio-Rad, USA) and ”catcher” element and immunoglobulin G, elaborated from the blood only the needful substrates and in required amount work without damaging the neutral blood components (erythrocytes, thrombocytes, leukocytes, lymphocytes, immunoglobulins, ferments and others) in critically ill patients. Our results prove efficiency of therapy of staphylococcus sepsis via immunosorbtsion with positive results.

5. At the present time Antioxidants became an integral part of many medical treatments, especially in cardiovascular and nervous diseases, cancer etc. In this regards it is important to understand correctly damaging mechanisms of free radicals and preventive ways. Georgian Critical Care Medical Institute already has some non-extensive experience in using of Oxitrel-TM in different cases of critical care patients. The product is made from BIONOVA, Inc. scientists (New-York, USA). The product was given by double blind method in randomized groups of patients. During the treatment with OxitrelTM no side effects has been registered. In the main group patients in the critical condition became softer, and recovery time was faster than in control group. The lethality in main group (treated with Oxitrel-TM) was reduced against the control group. It also important to emphasize that expensive treatment cost of patients in critical condition in main group has been reduced in control group. Unfourchinely, there are one the first steps of used nano- technological drugs and apparatus with treatment process in Critical Medicine and in future we will used very analogous examples.

6. The one of them different sign of Critical Medicine in 21-century are immunological study in critical patient. Our research demonstrated that all the patients with critical conditions are associated with secondary immunodeficiency syndromes. The syndrome with include cellular and humeral components of T- and B-system of immune response. That immunosuppressive effect are associated with decres CD3, CD4, CD8, CD16 and CD72 of the lymphocytes subpopulation, Immune-globulin A and G, also, with revealing of suppressive, helper and immune „memory” effect. There are some deficit of interleukins 2 and 10. We by used Interleikin-2 in the treatment processes in critical patients along with the basic therapy to prevent sepsis and other infection complication with positive results. Also, we study the peculiarities changes Alfa and beta endorphins, oxytocin, dopamin, serotonin and some other “primary messengers” in the critical ill patients. Our research demonstrated that, all patients with critical conditions are associated with decres serotonin, but levels beta endorphins and dopamine. We by used antiendorphine and antiserotonergic properties preparates in the treatment processes of critical patients with positive results. Hence, the different sign of “The Other” Critical Medicine should be taking in the critical patients treatment processes there of immunological and biochemical researches .

7. The following sign of “The Other” Critical Medicine should be looked for in the psychological research of critical patients. Such research was launched in Georgian Critical Care Medicine Institute and we already know things that were not known before: namely, it turned out that the critical condition leaves a heavy imprint of the psychology of the patients, creating the following psychological portrait of critical patient:

- * intellectual capacity of all patients is impoverished.
- * the memory, especially the short-term memory, is suppressed in all patients.
- * all patients lose the ability to comprehend the critical condition.
- * the sense of fear is weakened in all patients.
- * the sense of shame diminishes in all patients.
- * the egoism increases in all patients.
- * the degree of doubt is increased in all patients.

- * delirious discharge is quite frequent(25,6%).
- * rarely (4,3%) the stories experience by the ancestors are related.
- * two patients displayed the syndrome of “parallel universe”.
- * one patient recovered after long-term coma and was speaking only in French during the initial period, studied this language at school.
- * the clairvoyant skills are frequently(73,5%) magnified.

The majority of the patients has clear signs of enthephalopathy. Moreover, during the critical condition the patient's intellectual capacities are extremely suppressed, among them the memory, especially the operative one, is most blurred. Against this background the patients lose the ability to comprehend their critical condition, have suppressed sense of fear and shame, and fail to assess the gravity of the potential threat. On the contrary, the egoistic feeling are on the rise and propensity to doubt is extremely profound. Frequently the excitement is replaced by the depression, audio and visual hallucinations, delirium, idea fix, and other psychic pathologies are also rather frequent. Such patients often draw unrealistic pictures and tell unrealistic stories. It creates the visibility that these are the imprints in the patients' sub consciousness and the critical condition has ignited their presentation. Moreover, in some cases, it looks like these delirious accounts should be the recitation of the true facts, but chronologically, they should have occurred to the patient's ancestors, even the distinct ones, not the patient him/herself. In the extreme cases, these are accounts of the patient's previous lives. It is known that human beings are made of the celestial dust created by the “Big Bang” and nobody knows the organism of which human being, animal, plant or soulless entity have the dust particles passed through before entering the given body. No doubt, this process is broadly associated with the concept of reincarnation. Though, the most important here is, that we very often observe such “travel in the past” on the “stage” of Critical Medicine clinic. The research at Georgian Critical Care Medicine Institute has also revealed that critical conditions are also often associated with increased clairvoyance capacities. The studies of this specific subject showed that the critical patients were easily predicting the weather, the outcome of other patient's treatment and world championship games. Hence, the different sign of “The Other” Critical Medicine should be taking into account the psychological condition of the critical patients and its improvement.

8. However, the main area of the Critical Medicine is still with the revival of dying persons. The notion of irreversible changes that are developing in the brain within five minutes immediately after death was prevailing until the 80ies of the twentieth century. Moreover, it was believed that the complete recovery/resurrection of the person was impossible after this period. The cycle of works that included clinical research and experiment materials, has revealed that the changes in the human organism can be reversed in twice, three-times and even longer period than this magic five after-death minutes. Moreover, it was discovered that the pathological changes in the human brain and other organs are more profoundly manifested within the first 15-30 minutes after the revival than within 15-30 minutes interval after death. Further on, it was revealed that this phenomenon should be connected to those endotoxins that are transferred to different cells and tissues by the blood circulation recovered through the hart massage, thus aggravating the degree of their impairment. It was believed that these toxins were generated by the micro-flora of the intestine as well as the products of disintegration of the cells and tissues damaged by ischemia. During the research, which included immunosorption and chromatographic methods with polyacrylamide gels, a polypeptide with 14 kd mass was separated from the blood of the dead and dying persons. The small portions of this polypeptide changed the behavior of the intact laboratory animals, while big doses would cause spasmodic stricture and death in several minutes by breath interruption. This polypeptide is known in the scientific literature under the name of “death factor” or “death code”. Further studies revealed that during the dying process this so called death factor generates immunocompetent T-lymphocytes with suppressed immune memory. Besides, this factor turned out to be immune-suppressive and cytotoxic, especially neurotoxic compound of endorphin nature that preserved its toxicity during 17 years of storing at -4°C temperature. Currently the diagnostic device of this polypeptide is created; it enables registering the polypeptide in all cases of death. Besides, we have constructed the immunoglobulin and antitoxin against this polypeptide which helped in protecting the intact lab animals from the lethal dose of “death factor”. The lifespan of the old white mice was also prolonged by 30%. Presumably, the genes that condition the synthesis of this “death code” are present in the human body from birth but are suppressed by gene-modulators. Due to the impact of changes and other factors

generated by the old age, trauma, intoxication, chronic diseases their biological clock starts “ticking”, that is followed by depression of this gene and strengthened synthesis of “death code”. This, in its turn, causes paralysis and stoppage of breath function that leads to the “birth” of death. The further studies revealed that enacting of “death code” causes sharp increase of the level of endorphin. Hence dying processes should not be associated with pain, suffering and similar unpleasant sensations. Moreover, any activity conducted in this direction – whether scientific research or piece of literature, musical composition of artworks should be in error since death should be representing big pleasure. Declaration of death as the biggest evil should also be revisited, since without the act of death the universe could not exist. Hence, a tragedy for a single person looks like an ordinary prose for the society. Its clinical picture should be represented by enthephalopathy that exists during any process of dying. It’s noteworthy, that construction of anti-“death code” antitoxin and immunoglobulin, with some processing, provides the possibility of prolonging the human life by about 30% already during this decade, as well as surpassing the age of the oldest French woman – 122 years. However, we also have to mention that using the gene therapy looks quite promising. In this case, we have to suppose that the new method of gene editing known as GRISP created in the USA will provide the opportunity of “painless” removal of genes participating in the synthesis of “death code” genome. It is difficult to predict it at this stage, but such approach might enable the modern humans to live not as long as biblical Yaped for 962 years, but at least as Nachos – 142 years. Therefore, the one of them sing of 21st century’s “The Other” Critical Medicine” should be the postponement of death and preservation of life. Those, such approach might help the human being to fulfill its dearest wish since Adam – to get back immortality.

9. Though, the research conducted at Georgian Critical Care Medicine Institute rules out such possibility. It looks like the structure of the universe itself does not envisage immortality of the human and, irrespective E.Kunt’s and A. Einstein’s substantiations, it should have the beginning and the end. The follower of Kabala – Itskhak Luria, long before Russian George Fridman, in the 14th century supposed that the universe should have originated out of “explosion”. In the 20th century this notion was supplemented with the term “big” by the devoted opponent to this theory, the Englishman Oil Hoil. However, the biggest contributor in the creation of the "Big Bang" theory, which is nowadays the prevailing theory in the world, was the President of the Papal Academy of Sciences, the Belgian Georges Le Metre. But here we would like to speak about somewhat modernized theory of the universe, created by the Institute of Critical Care Medicine that assigns the major role in creation of the universe to critical condition. As you know, energy is the common characteristic of the universe. It exists always and everywhere, always moves and all is revealed through the energy. We think that energy exists in different forms; its first form is free or critical energy; another form is the matter; the third form – the information. The matter contains the mass or the substance, while the information has no mass. In its turn the mass matter is represented by inanimate matter and spiritual living organisms. Presumably, the free or critical energy exists only in singular environments and always exploding. This critical energy is theoretically permissible biggest energy, which has theoretically possible highest density and occupies smallest theoretically possible area. According to different data this should be the formation with 10-35cm diameter and 10.95 g/cm³ density. While the energy this formation is carrying, according to our calculations, should correspond to 10.88 gcm²/sec². In such a situation it is difficult to maintain the balance of the system, so critical energy cannot exist in long-term and it always explodes as "Big Bang" that is accompanied with emission of temperature equal to 10.23 Kelvin. As a result, this enormous energy is disintegrating and as separate parts is itemized into inanimate matter or substance. Thus bound energy is safe and do not explode. Through the evolution of inanimate matter the living matter is formed and living organisms start transforming the energy itemized in inanimate matter. The cells of living organisms - the mitochondria discovered by Swiss IK Olikeri seem to be involved in this process. In this case the human being is transforming the substance energy into the energy of soul, or energy of thought, or psychic energy or information. According to our estimations the energy of the "Big Bang" should have reduced by 41% at present, and should constitute 10.52gcm²/sec². 's should be. With the present pace of events this energy itemized in the material mass will be exhausted in 40 billion years and completely transformed into information, the universe will shrink, transform into singular state and will again explode in the form of "Big Bang". Thus, the universe should be playing the role of a safe depository of critical or dangerous, or "Big Bang" energy and the transformation of the latter should first acquire the

form of the matter with mass and then not having the mass in the form of information. This amazing journey of energy appears to represent the energy storage rule. Obviously, into so meticulously arranged universe, that even its creator, the Almighty God had to take a rest from his labors on the seventh day, no one would send humans without following some purpose. In this sense, one can speculate that the human existence is associated with its several functions. The first function is the participation in energy transformation processes and converting the energy of the matter into the information energy. According to our calculations the energy generated as information by one human within one year equals to $10.12 \text{gcm}^2/\text{sec}^2$ and it's a great value, while the amount of information freed from the beginning of the existence until the present by the civilization of the "wise human" should equal to $10.26 \text{gcm}^2/\text{sec}^2$ and represents 33.3% of all information in the universe. In this respect, it is likely that part of information or 7.7% is already "generated" by animals, plants and other representatives of the living world, while the remaining 59% - will be generated in the future by all living entities together. In this connection, another function of the human being should be the information storage function. According to A. Einstein and Sh. Bose theory hypothetical information channels are existing in this universe through which the information moves in the shortest ways to recipients, including the humans. We believe that people are born full of such information and the need for such channels may not exist. This information should be stored in each cell of the human genome, but its storage must be different from the protein synthesis code. Moreover, DNA is likely to contain not one, but several, at least four codes placed one over the other. Apart from "protein synthesis" code that contains 10.9 bits, it should be a code created through "musical notes" (3.10.9 Bit), the code compiled through "the alphabet or the words" (0,6.10.9BT) and the code assembled according to "electron spin" (4,3.10.11 BT). According to our calculations all of these code together are able to keep 10.39 BT information, which is also in line with all existing information. This procedure of storing the information in the universe should provide the human being with ability to conduct "trips to the past " and "predict the future". Interestingly, this seems to be facilitated by the act of freeing the subconscious from the influence of conscious, which is having place during the critical condition and which changes the human psyche. The third function of human existence must be related to the sustainability processes of the universe, but for its proper understanding we need to recall the "dramatic pictures" of quantum physics created by A. Einstein and N. Bohr debate about the location of the electron. A. Einstein believed that the electron is where it should be based on objective reality. N. Bohr believed that the electron is there where the investigator, or more precisely his brain wants it to be. But this debate ended by Einstein's famous phrase "God does not play dice", subsequent developments, however, proved that N. Bohr was right. But we believe that both of them were true. The thing is, the location of the electron around the nucleus of an atom the main condition for the sustainability of the universe and the electron is always there, particularly on the orbit, and the exact point of the orbit, which is essential for the sustainability of this world. A man's ultimate desire, which unconsciously always accompanies him, is to maintain life. For this, in the first place, the house he is living in should stand firm. This house, however, is located in this universe and it's necessary to maintain the universe itself to achieve the sustainability of the house. So in this case, the human desire matches with N. Bohr's "discovery" and simultaneously justifies Einstein's assessment. According to Bohr the electron is where the human, more precisely, his brain, wants it be and, at the same time, electrons are there, where, according to Einstein, the objective reality requires them to be. In fact, the human brain is concerned about maintaining his own life. Hence, the electrons are there, where their presence is objectively necessary in order to maintain the stability of the universe. Obviously people do not think about the location of an electron, but their nagging worry about preserving the life at the same time represent thoughts about the location of the electron, because it would not be possible without such an act. The existence of such thinking, on its part, and its emergence can only be possible by the existence a finite life and its replacement with death. It is interesting how the human being created by the God's image manages to properly maintain the sustainability of the universe. We think that, in this case, the most important role is played by the spirit or the thought energy that is released by the human while transforming the energy itemized in the substance and this energy seems to be used to manage these processes. It is an unfortunate fact that the sustainability of the universe is linked to inevitability of death and the world cannot exist without such personal tragedies. It only thing that can be done in this case is that the occurrence of this tragedy can be deferred for some time. This probably is the world's greatest secret and, to our surprise, it was noticed by Sh.Rustaveli in the twelfth century; his words "the sun could

not exist without you, because thou art his share of" are nothing else than a hint at this secret. The fact that the human being cannot exist without the sun/the universe was known even before Sh. Rustaveli, the wonder is why the sun/the universe cannot exist without the human being. Though Sh. Rustaveli is silent in this respect, in our opinion this is the first attempt to research the answer questions that worries everyone from the very beginning: why was the universe created and what is the role of people in this world. Hence, the different sign of the 21st century "The Other" Critical Medicine should be finding the proper answer to these questions. However, we must resort to the patience of Father Gabriel and wait to how the future unfolds.

Refereces:

- Z.Kheladze-"CriticalCareMedicine",Tbilisi.2007,-716pp,
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ზ.ხელაძე,ზვ.ხელაძე

"სხვა" კრიტიკული მედიცინა 21-ე საუკუნისათვის-მკურნალობის პრობლემები

მოტანილია საქართველოს კრიტიკული მედიცინის ინსტიტუტში შექმნილი კრიტიკულ ავადმყოფთა სადიაგნოზო და სამკურნალო საშუალებების გამოყენების მრავალწლიანი გამოცდილების შედეგები. მათ შორისაა ინტერნეტზე დაფუძნებული სამკურნალო პროცესის დისტანციური მართვის სისტემა,კრიტიკულ ავადმყოფთა ორგანიზმში პროგნოზული პრეკურსორების კომპირება "Georgias" ტიპის აპარატების მეშვეობით, აგრეთვე ბგერითი ტალღების, ქრისტიანული ორთოდოქსული მართლმადიდებლური რელიგიის ლოცვებისა და საგალობლების შემწეობით ახალი ტიპის "წამლების" შექმნის შესაძლ; ებლობა. ასევე განხილულია კრიტიკულ ავადმყოფთა იმუნოლოგიური, ბიოქიმიური და ფსიქოლოგიური კვლევის შედეგები. მოწოდებულია კრიტიკულ მედიცინაში ისეთი ალტერნატიული სამკურნალო მეთოდების დანერგვის აუცილებლობა, როგორცაა პლაზმაფერეზი და იმუნოსორბცია, აგრეთვე ინტერლეიკინი-2, ანტიენდორფინული და ანტისეროტონინერგული მედიკამენტები. ანალიზებულია კლინიკური სიკვდილის დროის გახანგრძლივების შესაძლო მექანიზმები და შეფასებულია ანტილეტალური ანატოქსინისა და იმუნოგლობულინის ეფექტურობა ექსპერიმენტული თერაპიის დროს. დეკომენდებულია მათი გამოყენების შესაძლებლობა 21ე საუკუნის "სხვა" კრიტიკული მედიცინის სამსახურში.