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23.V. Analysis of the blood serum revealed concentrations: Na = 350 mg%; K = 17.8 mg%; Mg = 2.8 mg%; Ca = 12.7 mg%; Eh = 148 mV.

25.V. Intravenous injection of (StK + KCl + glutathione) solution was made.

2.VI. Intravenous injection of (StK + KCl + glutathione) solution was made.

5.VI. Small bone sequestration came away.

8.VI. Toe and foot edema disappeared. The pain became less.

9.VI. Blood: Na = 316 mg%; K = 21.1 mg%; Mg = 2.8 mg%; Ca = 12.7 mg%; Eh = 150 mV.

11.VI. Intravenous injection of (StNa + glut)/10 solution was made.

17.VI. The patient's condition was satisfactory. Intravenous injections were discontinued.

24.VI. Pulse of foot dorsal artery on both feet was detected. I saw the patient in the September. The patient was walking freely without pain and a stick; he was sleeping well, put on weight. Skin color of finger was normal.

Examples from Dr. A. S. Samokhotskiy's medical practice (medical histories) described in his dissertation and the article.<sup>2</sup>

*Patient E.*, man, 33, during many years suffers from eczema, which became acute in fall and in winter time, but disappeared in summer. The disease was slowly in progress. There were lingering acute periods during last two years, first of them started in winter time.

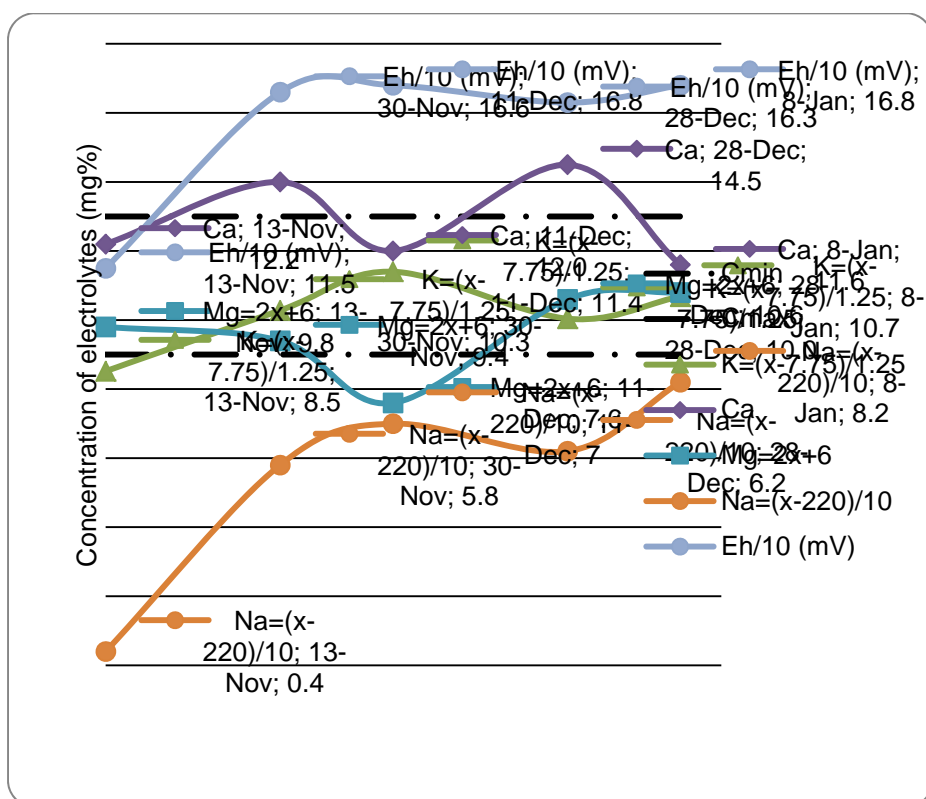
Patient was treated in Dermatology Institute, and then he was in sanatorium during two months. In summer time acute phenomena went away, second acute period became in late autumn. The patient was treated by intravenous injection of calcium chloride, but the pathology enhanced. The patient face was totally inflamed wet surface; essential part of the skin of hands and legs was inflamed and covered by wet areas. The patient suffers from persistent, intensive itch and pain.

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<sup>11</sup> Rona P., Kleinmann, H. *Praktikum der physiologischen Chemie: Blut, Harn*. Volume 2. Springer, 764 p. (1929).

Eight intravenous injections of Samokhotskiy therapeutic solution were made from November to January according to five analysis of blood serum. Eczema phenomena went off, wounds from scratches healed. Treatment was discontinued.

Fig. 7. Changes in concentration of  $K^{+a}$ ,  $Ca^{2+b}$ ,  $Na^{+}$ , and  $Mg^{2+}$  ions in blood plasma during the cure of the patient *E.* by Samokhotskiy's solutions.



<sup>a</sup>Cmin and Cmax lines are limits of normal concentration of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  in blood.

$Na(x-220)/10$ ,  $K(x-7.25)/1.25$ ,  $Ca$ ,  $Mg(2x+6)$  lines represent measured concentrations of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  ions in blood plasma (in mg%) respectively.

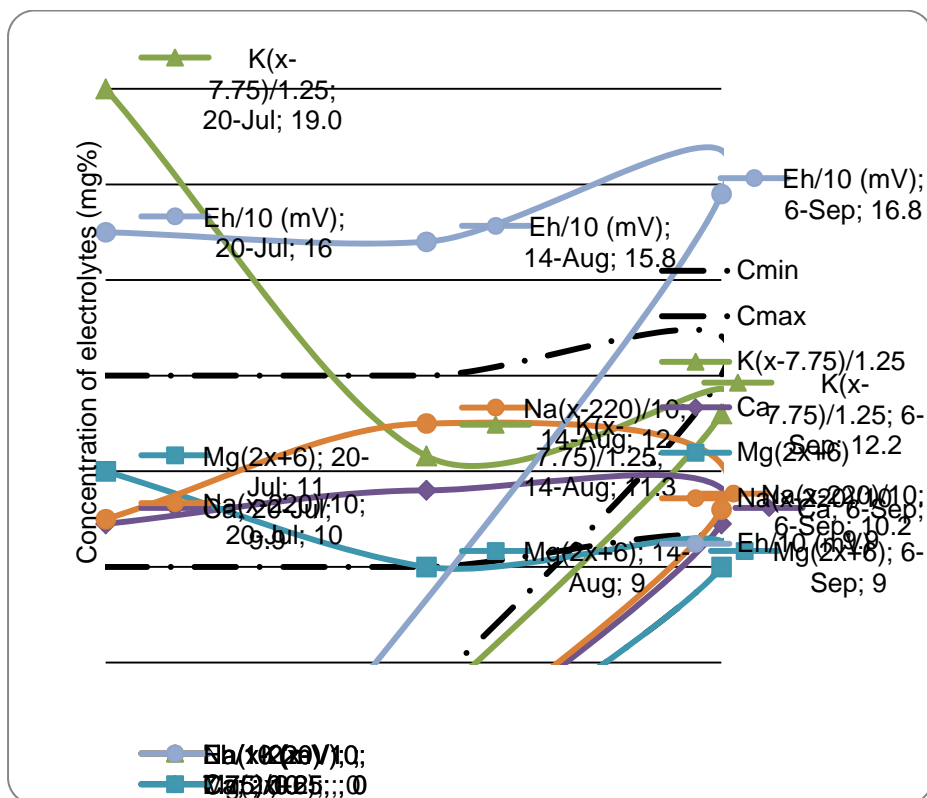
<sup>b</sup> $E_h$  represents measured values of redox potential  $E_h$  (mV).

<sup>c</sup>The concentrations of potassium, sodium, magnesium, and calcium ions in plasma were determined as before, on Nov 12, Nov 29, Dec 10, Dec 27, and Jan 7.

*Patient D.*, woman, 56, was suffering from lung tuberculosis. During last year her condition became sufficiently worse. She lost weight more than 18 kg, and had not appetite.

She was acute weak, walking with difficulty; her body temperature oscillated from 35.6 °C morning to 39.5 °C afternoon, and she had diarrhea.

Fig. 8. Changes in concentration of  $K^{+a}$ ,  $Ca^{2+b}$ ,  $Na^{+}$ , and  $Mg^{2+}$  ions in blood plasma during the cure of the patient *D.* by Samokhotskiy's solutions.



<sup>a</sup>Cmin and Cmax lines are limits of normal concentration of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  in blood.

$Na(x-220)/10$ ,  $K(x-7.25)/1.25$ ,  $Ca$ ,  $Mg(2x+6)$  lines represent measured concentrations of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  ions in blood plasma (in mg%) respectively.

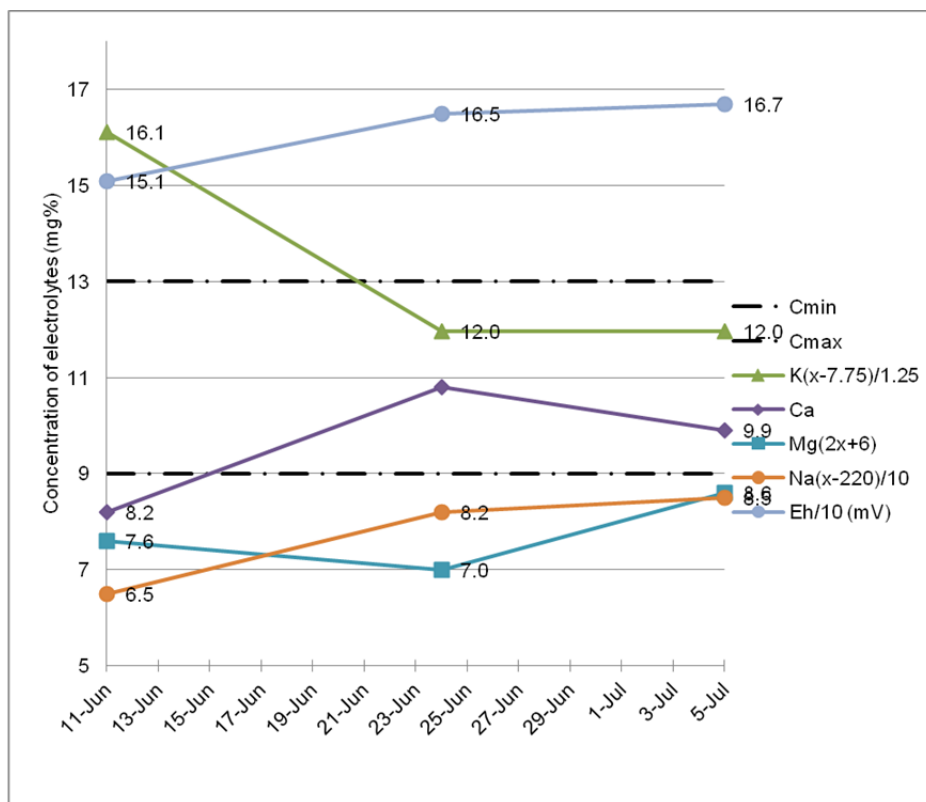
<sup>b</sup> $E_h$  represents measured values of redox potential  $E_h$  (mV).

<sup>c</sup>The concentrations of potassium, sodium, magnesium, and calcium ions in plasma were determined as before, on Jul 19, Nov 29, Aug 13, and Sep 5.

From 19.07 to 05.09 four intravenous injection were made based on three blood serum analysis. The diarrhea discontinued, the patient got appetite to Aug 8, to Sept 5 she gained in weight 3 kg, felt herself brisk, temperature was normal. She was discharged from hospital.

*Patient A.*, woman, 23, had the osteomyelitis of left huckle in diagnosis. The neoplasm was appeared in age 14, accompanied with acute pain in left huckle aria and high body temperature. The surgery operation was made in clinic; one month later second operation was made, then again one month later third surgery. During following years the exacerbation was repeated, the surgery and conserving methods of treatment were ineffective.

Fig. 9. Changes in concentration of  $K^{+a}$ ,  $Ca^{2+b}$ ,  $Na^{+}$ , and  $Mg^{2+}$  ions in blood plasma during the cure of the patient *A.* by Samokhotskiy's solutions.



<sup>a</sup>Cmin and Cmax lines are limits of normal concentration of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  in blood.

$Na(x-220)/10$ ,  $K(x-7.25)/1.25$ , Ca,  $Mg(2x+6)$  lines represent measured concentrations of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  ions in blood plasma (in mg%) respectively.

<sup>b</sup> $E_h$  represents measured values of redox potential  $E_h$  (mV).

<sup>c</sup>The concentrations of potassium, sodium, magnesium, and calcium ions in plasma were determined as before, on Jul 19, Nov 29, Aug 13, and Sep 5.

In time of next aggravation we proceeded to cure according our method. Three intravenous injections were made. Treatment was discontinued. The patient began walking, fistulae closed. Twenty years flew, woman studied and was graduated from medical university, was working, the exacerbations not occurred.

*Patient K-a*, woman, 18, 1.VI at 6:00 am, during field work occurred in an accident. A horse struck the woman by a hoof. The kick fell in the area of the anterior abdominal wall, just left of the navel. There was a lot of pain, which subsided a bit over half an hour. The woman was brought home about 4 kilometers. Later an abdominal pain intensified, and nausea appeared. Patient



sometimes lost consciousness. A laxative was given. Condition of woman worsened and patient was transported to the hospital.

The path in 20 km was occurred in 6 hours. They drove all the time by step, often stayed, because the slightest tremor caused unbearable pain. Around 6 am on June 2 patient was taken to the hospital.

At 6:00 am, Dr. A. S. Samokhotskiy took the patient on the operating table. The abdomen was opened by a white line through most of it. Serous surface of loops of small and large intestines was severely infected and covered with strata of fibrous depositions. In the abdominal cavity muddy yellow–green effusion, mixed with the contents of the intestine was found. At a distance of 80–100 cm from the ileocecal valve the transverse rupture (2.5–3 cm long) of small intestine was detected. Ruptured intestine was sutured with blind suture on the abdominal wall. Two hours after the operation the blood was taken for analysis, and an intravenous injection of 1 cm<sup>3</sup> (StK + glutathione) solution was made immediately. There was not, of course, appropriate indications for the use of regular StK solution. We did in this case as well, as we did before, i.e. started a treatment with the use StK solution.

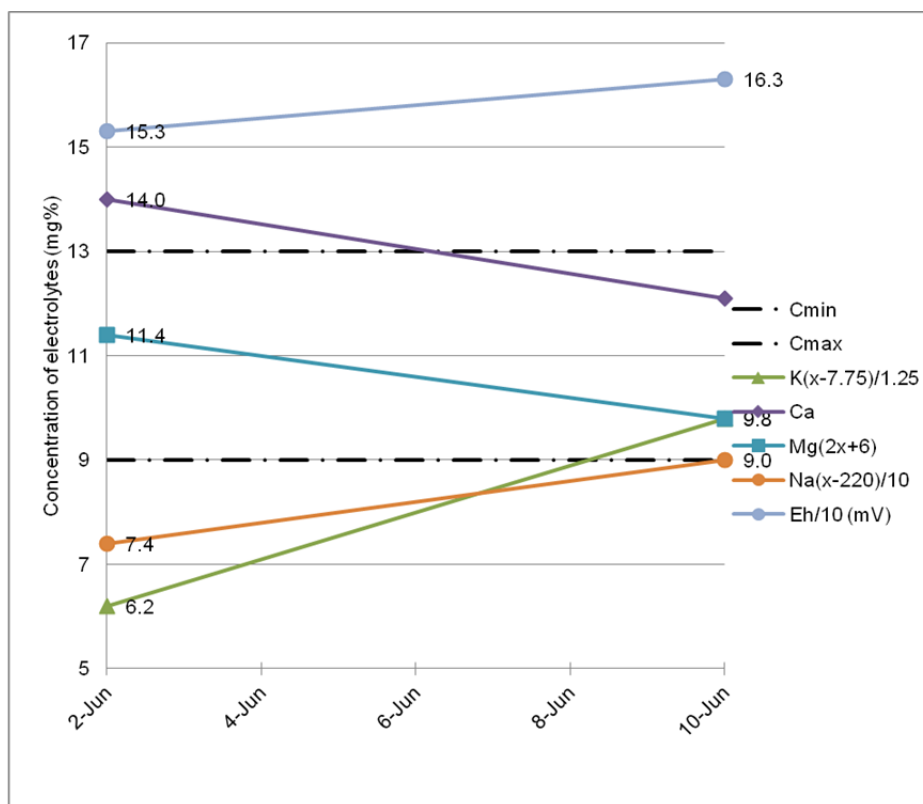
3.VI. Analysis of the blood serum taken by 2.VI revealed concentrations: Na = 294 mg%; K = 15 mg%; Mg = 2,7 mg%; Ca = 14 mg%; Eh = 153 mV.

6.VI. Intravenous injection of (StK + KCl + glutathione) was made.

7.VI. Phenomena of bowel paresis, which occurred 4.VI, 5.VI and 6.VI were disappeared. Flatus and stool became normal.

10.VI. Analysis of the blood serum revealed concentrations: Na = 310 mg%; K = 19.5 mg%; Mg = 1.9 mg%; Ca = 12.1 mg%; Eh = 163 mV. Intravenous injections were discontinued.

Fig. 10. Changes in concentration of  $K^{+a}$ ,  $Ca^{2+b}$ ,  $Na^+$ , and  $Mg^{2+}$  ions in blood plasma during the cure of the patient *K-a* by Samokhotskiy's solutions.



<sup>a</sup>Cmin and Cmax lines are limits of normal concentration of  $Na^+$ ,  $K^+$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  in blood.

$Na(x-220)/10$ ,  $K(x-7.25)/1.25$ , Ca,  $Mg(2x+6)$  lines represent measured concentrations of  $Na^+$ ,  $K^+$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  ions in blood plasma (in mg%) respectively.

<sup>b</sup> $E_h$  represents measured values of redox potential  $E_h$  (mV).

<sup>c</sup>The concentrations of potassium, sodium, magnesium, and calcium ions in plasma were determined as before, on Jun 2, and Jun 10.

In the postoperative period, the wound in the lower third was festering. The use of moist bandaging, impregnated with StK solution, quickly eliminated inflammation.

The outcome of the cure: in the 2.5 months after surgery, patient was perfectly healthy. She often went from village to the city, the distance between them was about 20 km, she worked, etc.

*Patient D-a*, woman, 50, was in the hospital several times since 1943, with a diagnosis Hodgkin's lymphoma. She received injections of arsenic and Lugol's solution, but the lymphoma phenomenon grew. The last time she was in the hospital from 11.VI to 17.VI. 1944. Large tumor

nodules of cracked lymph glands of the right half of the body pressed to nearby vessels, causing a huge swelling of the chest, abdomen and legs, with great cyanosis. Temperature ranged from 36.6 in the morning to 38.8 °C in the evening. In critical condition patient was discharged home.

June 24 the patient's condition was as follows: in the neck, on the left, a tumor in the size of a child's fist, painless, with wavy surface, and blue and purple color. In the region of the left groin, left and right thighs, as well as in the left buttock she had a tumors. Some of them were putrid broken, exuded pus.

The patient lied, and was so weak that could not rotate independently. Diarrhea was 7–8 times a day. At the night patient was receiving an injection of morphine.

28.IV. Analysis of the blood serum revealed concentrations: Na = 284 mg%; K = 25.4 mg%; Mg = 2.8 mg%; Ca = 8.4 mg%; Eh = 147 mV.

29.VI. Intravenous injection of 1 cm<sup>3</sup> (StNa + CaCl<sub>2</sub> + glutathione) solution was made.

3.VII. Diarrhea decreased. Exudates from broken granulomata were more liquid and watery.

6.VII. Intravenous injection of 1 cm<sup>3</sup> (StNa + CaCl<sub>2</sub> + glutathione)/10 solution was made.

10.VII. Stool was 1–2 times daily. Exudates almost disappeared. Wounds healed.

16.VII. Intravenous injection of 1 cm<sup>3</sup> (StNa + CaCl<sub>2</sub> + glutathione)/10 was made.

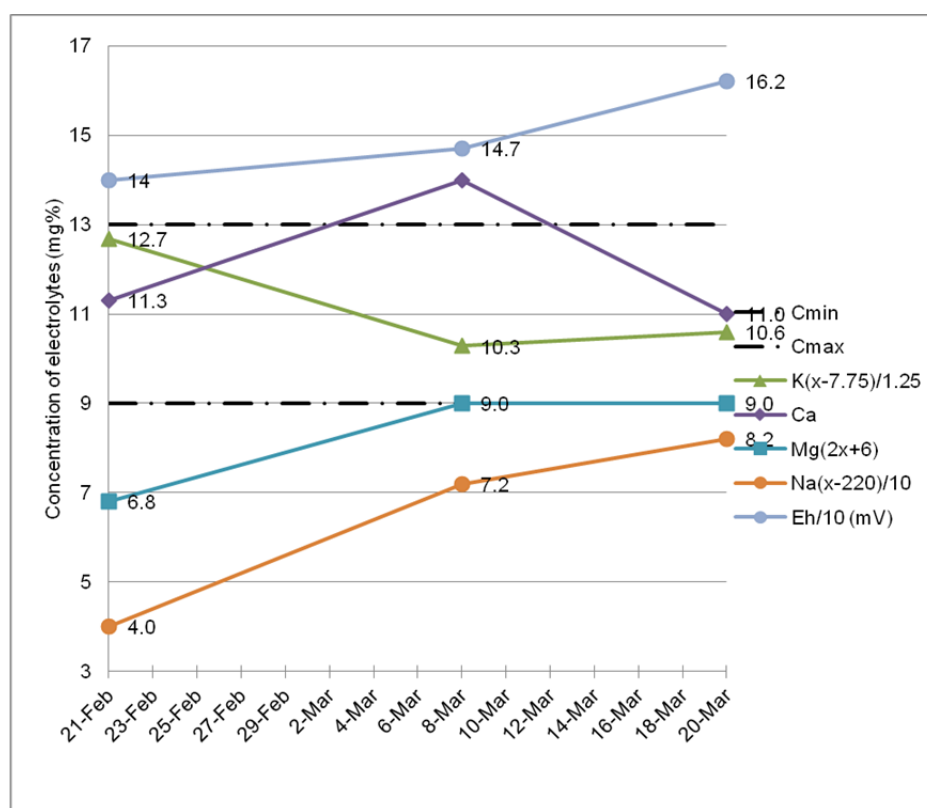
26.VII–Diarrhea ceased. All wounds healed. Tumors on the thighs and buttocks disappeared. The tumor on his neck became smaller. Cyanotic color of the skin was gone. Swelling of the skin of both legs stomach remained. The patient felt more energetic, an appetite grew. She walked and made homework a little. A break in treatment was taken.

*Patient S–a*, woman, 28, suffered from epileptic seizures for many years. For the past two years seizures became frequent, in the last six months became monthly. One day before the attack

usually depression occurs, attack premonition, which was gradually growing, and was usually ended with attack. Recently, such condition had become permanent, and the patient did not go out because she was a fear of the possible seizure.

21.II. Analysis of the blood serum revealed concentrations: Na = 260 mg%; K = 23.1 mg%; Mg = 0,4 mg%; Ca = 11.3 mg%; Eh = 140 mV.

Fig. 11. Changes in concentration of  $K^{+a}$ ,  $Ca^{2+b}$ ,  $Na^{+}$ , and  $Mg^{2+}$  ions in blood plasma during the cure of the patient S-a by Samokhotskiy's solutions.



<sup>a</sup>Cmin and Cmax lines are limits of normal concentration of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  in blood.

$Na(x-220)/10$ ,  $K(x-7.75)/1.25$ , Ca,  $Mg(2x+6)$  lines represent measured concentrations of  $Na^{+}$ ,  $K^{+}$ ,  $Ca^{2+}$ ,  $Mg^{2+}$  ions in blood plasma (in mg%) respectively.

<sup>b</sup> $E_h$  represents measured values of redox potential  $E_h$  (mV).

<sup>c</sup>The concentrations of potassium, sodium, magnesium, and calcium ions in plasma were determined as before, on Feb 21, March 8, and March 20.

22.II. Intravenous injection of (StNa + NaCl + MgCl<sub>2</sub> + glutathione)/10 solution was made.

27.II. Intravenous injection of (StNa + NaCl + MgCl<sub>2</sub> + glutathione) solution was made.

8.III. Analysis of the blood serum revealed concentrations: Na = 292 mg%; K = 20.1 mg%; Mg = 1.5 mg%; Ca = 14 mg%; Eh = 147mV.

9.III. Intravenous injection of (StNa + NaCl + glutathione) solution was made.

15.III. Intravenous injection of (StK + KCl + glutathione) solution was made.

20.III. Analysis of the blood serum revealed concentrations: Na = 302 mg%; K = 20.5 mg%; Mg = 1.5 mg%; Ca = 11 mg%; Eh = 162 mV. Intravenous injections were discontinued.

25.III. The patient felt healthy, without depressed. She went out, sometimes in public places. During the treatment seizures not occurred. I saw the patient six months later. She felt completely healthy.

*Patient S.*, man, 15, got wound back side of second finger by bit of lathe, tendon of extensor was cut. In outpatients' clinic wound was sutured, bleeding continued. It was appeared that the patient suffered from hemophilia. Four days after wounding the patient was delivered to the surgery clinic in serious condition. Following several days the condition catastrophically worsened. The inflammation with putrefactive decay of tissues extended to lower part of forearm; shoulder and shoulder–girdle were edematous. Gangrenous decomposition of tissues intensified. Hemophilic bleeding was continued, the patient was exsanguinated. Hemophilic bleeding, inflammation, and heavy total septic phenomenon did not let resort to high amputation of shoulder. After five days in clinic patient condition became catastrophic.

We proceeded to intravenous injections, at 7 p.m. the first injection was made according our method, next day at 11 a.m. all layers of bandage, tampons and death tissues were removed. Bleeding was not observed. Following process proceeded smoothly and completed by recovery with limited motion of hand.

*Patient E.*, woman, 30, in postpartum period had trombophlebitis of left crus, lung abscess, and exudative double–sided pleurisy, pyaemia with temperature fluctuation from 36.0 to 41.8 ° C

and with fever duration from 1 to 2 hours. She got edema of both foots which spread afterwards on the crura, huckles and abdomen area.

March, 6 patient was moved to Dr. A. S. Samokhotskiy for treatment. This day intravenous injection was made, repeated injections were made March 9 and 12. March, 13 patient fever diminished, the patient felt better, edema began decreased. March, 20 edema almost disappeared, fever stopped. March, 27 temperature was normal. She was discharged from hospital in good condition.

*Patient K.*, woman, 32, entered into the clinic because of chronic exacerbation trombophlebitis of the lower extremities and nagging pain at hip aria. The patient cannot walk because of pain, was nervous and had insomnia. The pain gradually intensified, edema increased.

After blood plasma analysis 3 intravenous and 2 hypodermic injections were made. Already on third day after treatment start, the patient was allowed to walk. Edema disappeared, during the walk she had not pain. The patient felt better. However after several days cutting pain and feeling of heaviness were increased due to the patient was walking the stairs a lot. Hypodermic injection eliminated this phenomenon.

At 15 days after beginning of cure the patient was discharged from hospital in good condition, she was walking free, had not edema and the pain.

### **References.**

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- 2) Alexander S. Samokhotskiy. About nervism and associated therapeutic problem. "Chemistry and Life", **1989**, No. 11, 75–85. (Rus.: A. C. Самохоцкий, О нервизме и лечебной проблеме его. *Химия и жизнь* **1989**, №11, 79–85).