

FROM THE HISTORY OF TREATMENT WITH HONEY

At all times to the treatment with honey was paid a great attention. Still in the II-IV centuries B.C. honey was applied as the best curing agent. Honey was used during long tours, as well as to for preservation of poultry. In the honey different products preserve fully the properties of freshness.

In addition, honey in the past was considered as a best preservative agent for embalming of corpses. The historical sources give notice that the dead body of Alexander the Macedonian was embalmed in honey.

Description of the Colchis honey properties may be found in the books of historians and travelers, as well as in the works of the Western European authors. At that times in Colchis several kinds of honey may be distinguished: rabid, detrimental, bitter, dopy, heady, toxic. All these kinds of the honey were studied adequately and were applied for medicinal purposes.

The famous Greek geographer Strabon in his "Geography" informed that "Colchis – country rich with (fruits), except honey (which mostly has a bitter taste)".

The ancient Greek historian Xenofont, together with the other events, describes the following:

"On the whole here was noting outstanding, but there were many bee hives; all the soldiers, who took some honeycombs lost consciousness, suffered from vomiting and diarrhea, nobody was able to stand up on feet; those who took honey in small quantities looked like inebriated, and who took large quantities seemed like insane, some even – dying.

Many laid down in such a condition as if after defeat and lost courage, but next day nobody died and about the hour, when the day before they ate the honey, the ill began to recover, and on the third and fourth days got up as if after intoxication with honey".

Smith Elly (1801-1857) the American missionary and orientalist, who was traveling in the East and visited Georgia wrote in his letters:

"Among blooming bushes, the flowers of the Pontius azalea filled the air with strong fragrance.

The bees, undoubtedly, took the honey, that poisoned the army of Xenofont. The same toxic honey causing at eating a headache, delirium, vomiting, are not seldom yet at present in this locality. All these occurrences were observed with one visitor before our arrival to Trabzon, who by chance took such honey. We were told that natives recognize it according to the strong smell characterizing the flowers of the above bushes".

In the book of Spenser "Voyage Along Cherkezia, Abkhazia and Megrelia" was noted that very often they heard conversations about the intoxicating honey having narcotic properties owing to the azalea flowers from which the bees take the graft. "Though many people speak about it, - wrote Spenser, - none of the travelers was able to find the toxic honey".

Karl Koh, who visited these places and gained confidence, explains, evidently with arguments, that it was spoiled, and may be in the stage of fermentation, but not toxic honey.

According to the English scientist of the XIX century Pevi, who created the teaching about food, the Trabzon honey near to the Black Sea long since is distinguished by detrimental properties, because the bees collect honey from the special variety of rhododendrons (Arailapontica), growing on the neighboring hills. The effect of this honey is expressed in the headache, vomiting and peculiar intoxication, and in the cases, when it is taken in large quantities it may condition the complete loosing consciousness and during several hours enervate the man.

By the way, it was assumed that apparently this kind of honey poisoned the Xenofont soldiers who described this incident in his "Retreat of the Myria".

About toxic properties of some kinds of the honey wrote Plinius (23-79 years), Claudius Eman (170-235 years).

The order's priest Italian Acagelo Lomberti, a missionary in Georgia, mainly in Megrelia (1630-1650), in his work "Description of Colchis" giving different opinions about Colchis, definite place is devoted to the Colchis honey. He wrote:

"...from my experience I know that the best honey in the whole world is Colchis, because the local ordinary honey is similar to Spanish and meets all the requirements of Mateoli for the best honey. The reason is that here grows abundantly mellissa and covers all the uncultivated meadows.

This herb is very useful and so delicious for the bees that the bees were named after mellissafillo and as this herb transmits its characteristics to the honey, from this herb the best honey is obtained.

Besides the customary honey there is another honey (kind), similar to which cannot be found anywhere except Colchis and the neighboring countries, it very white and strong, as a sugar, so that if you break off a bit with a hand, the honey does not stick to it and at the place of break white and very soft wax may be seen".

Further according to the author, "to those who abused the Colchis honey, I must answer that Strabo, who asserted it was bitter, either tasted it himself, or learned about it from others. I cannot deny that sometimes the honey may be bitter, the honey should not be blamed, but the vessel where it is kept. The Migrelians lack vessels and that is why they use a very bitter pumpkins giving to the honey a bitter taste from the very beginning. But the honey that is kept in skins is always very sweet".

" The others say, - wrote Lomberti, - that the Colchis honey is not only bitter, but detrimental. The reason is that in Colchis plenty of oleanders grow, from which a bee collects honey and as this plant has a poison, the honey is poisoned before tasting, and who tastes it either is intoxicated or loses consciousness and goes mad".

"To those who say that the Colchis honey is toxic and drives people mad, I'd like to answer, that where is the daring person who would taste this poison with the risk of going mad? Of course, there's nobody. And, nevertheless, we see that everyone tastes this honey and fills good".

"It is true that the honey collected in the mountains during blooming of rhododendron, causes vomiting when tasted. That is why the peasants use it as purgative means, but as soon as this honey is returned in the hive or put in the vessel, it loses the above vomiting property and afterwards everyone can take it without fear".

The eastern honey was appreciated as well by the Dutch physician and geographer Olifer Dapper.

The famous Roman public figure and commander Pompeus, after conquer number of countries, invaded in Georgia. In 65 year of the old era, his army intruded into Colchis. But they were not able to conquer the country. The local population was able to defeat the conquerors by means of honey.

"The Colchis population was able destroyed three detachments of the Pompeus that were passing through this mountainous place. On their way were put craters filled with mad honey obtained from branches. The Romans went mad, at that time they were attacked and destroyed".

It is remarkable that the Colchis population was well aware not only of the properties of different sorts of honey, but they were able to mix different sorts of honey obtaining the honey with definite action. In the described above case, they used mixed wild (forest) honey causing general intoxication of the army.

In the past, our ancestors used honey for treatment of many diseases. These types of treatment were maintained in the old medical books and traditions. In the given

work we do not have possibility to describe the rich materials about application of the honey for medical purposes in the past, but we'll discuss briefly some historical data about medicinal properties of the honey.

In the medical book of the XII century "Tsigni Saakimoi" published under the editorship of V. Kotetishvili, are given more than 160 prescriptions of treatment with honey. In the book it was written that at ulceration of the ear, if the ulcer is old, the honey must be diluted with the attar of roses and should be introduced in the ear, if the ulcer is fresh – aloe and gelatin by 2 g. All the components must be pounded, wick from cotton sprinkled with the prepared powder and placed in the ear; where the liquid is present the medicine must be liquated with honey and dropped in the ear; in order to cure the discharge and heal the ulcer some mixture of iron tincture on the vinegar (month or more old) must be dropped.

At stomach ache the old wine and honey water was recommended, that was prepared as a hot relish, as well as wine of dried grapes with honey.

For larynx tumor the book recommended to rinse the larynx with honey or nut syrup.

The author advised to take different foodstuffs with honey at tumor of abdominal cavity, liver, haemorrhage of throat, bloody vomit, weakness, bodily thinness, etc.

In the other medical book "Jadigar Daudi", representing folk medicine of the XVI century in Georgia, honey is considered as one of the best medicinal means. The following is said with respect to honey:

"Honey, hot and dry releases from depression and phlegm, increases an appetite and facilitates assimilation of food, is useful for heart and stomach, strengthens extremities and vessels, evacuates liquids from heart and stomach and gives integrity to the organism. Causes congestions to intestines and kidneys and gives rise to the desire for woman, releases of weakness in intestines and meteorism, intensifies secretion of sperm, releases of urine congestion and cures many diseases developed on the basis of melancholy and phlegm".

Treatment with honey has not lost its significance in the following centuries. On the contrary, its medicinal properties are being studied deeply after the chemistry, and namely, research of elements has reached the peak. Though, honey, its chemical and medicinal properties have not been studied full yet, but the accumulated materials for the given issue enables to place honey among most active medicines.

HONEY IN MODERN MEDICINE

During last years in the medical literature many works about the high medicinal properties of honey have appeared.

Before focusing on the issue of treatment with honey, briefly about the basic issues of biological direction that are the foundation of solving the problem of regeneration processes.

Professor Gerbalskij (1946), during the research of biological processes in surgery, studied the following issues: 1) detailed morphological research of the regeneration process mechanism; 2) research of reactive phenomenon in cellular elements with protective properties (blood microphages and reticuloendothelial elements); 3) investigation of biological substances facilitating the regeneration processes.

Thus, researchers with biological profile raise the question about biological action of the medicinal substances that would facilitate the rapid healing; on the one hand, would prevent the wound infection, on the other hand, would stimulate the protective power of the organism.

In this respect, the great success was achieved during the years of the Second World War in the Scientific-Research Institute of Beekeeping by V.A. Temnov, Candidate of Medical Sciences (1944), who studied complex properties of the bee-honey, as a bio-stimulating agent.

Action of the honey, as of medicinal biologically active substance, was studied, in the first place, on a wound.

The Chief Hospital Administration that existed under the USSR People's Commissariat of Health, performed scientific research of the issues of treatment with honey on the basis of different scientific-research medical institutions; in particular, the medicinal properties of honey were studied in the Institute of Microbiology, Academy of Sciences of the USSR, by Professor N.A. Krasilnikov (1944), in the Tomsk Medical Institute by Professor S.A. Smirnov and Doctor Korovin (1944), in the Institute of Microbiology and Epidemiology of Tomsk by Professor S.G. Karpov and Doctor M.I. Fiodorov (1944). The above institutes determined bacterioprotective properties of honey. It appeared that some sorts of honey preserve these properties after dilution with water. The bactericidal properties of honey were studied in wounds on staphylococci, streptococci and all kinds of diplococcus.

It was ascertained that poly-floristic flower honey possesses more strong antibacterial properties, than mono-floristic. Poly-floristic flower honey of one and the same sort has different effect for different kinds of bacteria.

At the Institute of Microbiology and Epidemiology of Tomsk it was determined that the "old age" of honey is not reflected from bactericidal point of view. All the layers of honey (upper, middle and on the bottom) kept in the vessel have the identical effect on bacteria. Different sorts of honey have different effect on bacteria with distinct toxicity. The physicians Kniazev, Argudiaev, Samsonov, Tatianov (1944) applied 5-10% of honey for spaying of wounds, as well as for wet beddings. The honey in the clinic was used in the form of ointments for treatment of wounds.

Treatment with 5-10% of honey in the form of spraying and wet beddings was performed with 250 patients. Duration of treatment was from 5 to 28 days. Dressings were performed once during 5-7 days. Treatment appeared to be extremely efficient.

In the other case, where from 75 patients for which the same treatment was performed, the effect was obtained among 68 patients, in 7 cases the treatment appeared to be ineffectual. The wounds incapable to be treated were also treated with honey. Smearing of the wound with honey was performed in 3-5 days during 20-40 days. The treatment gave good results: the pus reduced gradually, the wound surface was tightening, normal healing began.

At the Moscow Evacuation Hospital, Doctor Drobinskij (1944) received good results in 90% of cases of treating with honey. In total he treated 118 patients.

Menshikov and Feldman (1949) inform about treatment of gastrointestinal tract ulcer with honey, in particular, stomach ulcers. They treated 46 patients from 18 to 60 years old. The patients suffered from stomach ulcer or duodenum ulcer. Duration of the disease: from 3 months to 7 years – in 8 patients and more than 10 years – in 8 patients. Before beginning of the treatment the patients were subjected to radiological and laboratory examination. The warm honey was administered in 150-200 g 3 times a day. Duration of the treatment was 16-17 days. In a week from the beginning of treatment the ache calmed down. After two weeks in 44 patients at radiological examination the niche was not observed. In two patients, though the niche was still found, clinically they felt well. Observation of patients during 4-5 years after treatment showed stability of the obtained effect.

Professor S.L. Smirnov at the Moscow Evacuation Hospital performed treatment with honey of patients having different wounds; in his report concerning the treatment with honey, Professor Smirnov noted that the given type of treatment is quite

satisfactory; the honey does not cause irritation of tissues, releases of unpleasant subjective feelings in the wound, hypostasis, hyperemia and infiltration of tissues disappear quickly, quantity of egesta reduces, the wound is cleared, granulation acquires healthy pink appearance, growth and reproduction of granulating area is stimulated. That is why, honey may be ranked among the substances stimulating the healing processes of wounds. Treatment with honey of chronically green, complicated with osteomyelities wounds was performed in 45 patients at the Frunze Evacuation Hospital. Results were extremely satisfactory.

The performed research enabled to make the following conclusions:

1. The bee honey, especially – flower, has a good effect on infected wounds.
2. 5-100% aqueous solution of the bee honey, applied in the form of spraying or wet beddings, accelerates granulation of wounds, facilitates healing of chronically green wounds, cleans the latter from pus.
3. Honey, as an excellent medicinal means, may be applied for treatment of wounds, especially, when they are mean to other forms of treatment.

Frequent use of the honey with food causes a number of chemical changes in the organism, as a result of which level of sugar in the blood increases, and in spinal liquid – quantity of different mineral compounds, that in its turn effects the nervous system (Prof. R.K. Meshnikov).

During last years very interesting data about the honey, being excellent medicinal means for kidneys diseases, have been accumulated.

Disease of kidneys and urinary bladder is reverberated on the whole organism, normal functioning of the heart, liver function, harmony in the work of nervous and endocrine system and other organs is disturbed. As it is known, kidneys are low voluminous organs, weight of which makes 120-130 g, they contain about 1 million of tubules and glomerulus and have very important and responsible function in the organism. This "biological filter" excretes from the organism detrimental for the latter products of metabolism. The kidneys during 24 hours filter not less than 100 l of blood plasma, at the same time discharging 1,5 l of urine. If we take into account that the human organism contains about 6 liters of blood and during 24 hours the latter must be passed repeatedly through the kidneys capillaries (in the quantity of 100 liters) , it is easily perceivable what a great work is performed by the kidneys in organism. It is understandable, why the disease of kidneys is very dangerous and treatment – important. The issue acquires even more significance, if we consider, that the medicine is still poor with efficient preparations for treatment of patients suffering from nephritic diseases.

Zeis (1957) with this purpose recommends application of honey. Honey, as noted by the author, contains very insignificant quantity of proteins and does not contain any salts, i.e. substances undesirable for the organism with nephritic disease.

Zeis prescribed honey for the patients with nephritic disease in the amount of 50-100 g per day. He received excellent results. Observations obtained enable the author to conclude that treatment with honey is efficient not only in relation with the diseased kidney, but at the same time it has a good effect for the disease of urinary bladder, liver, heart, gastrointestinal tract and other organs.

Application of honey for treatment of kidneys and urinary bladder disease is recommended as well by Professor A.G. Kirhenstein (1937).

A. Erteli and E. Bauer indicate that for disease of kidneys the extract of dog-rose (15 g of dog-rose for 0,5 l of water) with honey, as well as juice of garden radish (1-2 cups per day) with honey. At presence of sand in kidneys these authors recommend the olive oil with honey and lemon juice, a table-spoon 3 times a day.

G. Gertwig (1957) considers honey to be useful for weakness of urinary bladder and enuresis.

A. Raff (1957) in his book "The House of our Friend" for prevention of stones formation in the urinary bladder advises to administer the decoction of dog-rose with honey.

It is commonly known, that at present glucose in the clinical day-to-day existence occupies an important place among other medicinal means.

The Soviet scientist prof. S. Reisedlman in his monograph "Nephritic Diseases" writes that glucose is an excellent medicinal means widely applied in clinic.

But in comparison with glucose, the bee honey – is more powerful and comprehensively acting preparation, as it comprises various vitamins, ferments, mineral substances, hormones, antibiotics and other necessary for the organism substances.

"It is doubtless, that - writes N.P. Iourish (1954), - if the board of each worker, schoolchildren and adult contains honey, then the mankind will forget totally about many heavy diseases, particularly, gastrointestinal, nephritic, nervous and other specific diseases. This is power of the marvelous means".

It is interesting to note, that a bee extracts curative substances not only in the form of honey. It is now proved that curative properties have the bee larval milk and the bee venom.

The German scientist, candidate of medical sciences N.P. Ioirimish gives opinion of different scientists about therapeutic properties of the larval food.

According to the studies of M.D. Khaidak (1957), the larval food contains 45,15% of proteins, 13,55% of fats and 20,39% of carbohydrates (glucose and fructose). When comparing the larval food with the other kinds of milk it appears that the woman's milk contains 2,14% of proteins, cow's milk – 3,4%, and horse's – 2,02%. Fats in the woman's milk – 6,29%, in cow's – 4,9%, horse's – 5,77%. It was determined that the larval food contains 20 types of amino acids necessary for normal development of the organism.

Mill (1957) ascertained that nursing bees to the composition of the milk add the vitamin E. But, if the milk is intended for the working bees, the vitamin E is not added.

According to the data of G. Gaidava, L. Palmer, M. Tankvarts, A. Vivine (1957) et al., the larval food contains almost all types of vitamins, pantothen and biotin in the larval food are 12-16 times more than in the stigma of flowers. Thiamin, riboflavin and nicotinic acid in the larval food is contained in the same quantity as by the stamens of flowers. Vernoy, Shendel, Pzher and William, giving percentage of vitamin composition in the larval food, conclude that according to the rich containment of vitamins the larval food cannot be compared with any other substance. Johanson, who studied quantitative containment of vitamins in the larval food, has the same opinion.

Professor Zaikovskij (1957) states that the larval food is not a simple mechanical mixture of different substances, but an integral uniform system comprising a living tissue of an organism, for example, blood. Though according its nature composition of the larval food and blood is different, but they consist of one and the same substances, for example, "proteins, carbohydrates, fats, mineral salts.

The larval food, as a curative means, in the modern medicine is well known. In the given direction research was performed by the famous scientists more, Oshman, Johanson and others.

These scientists studied the therapeutic effect of different doses of the larval food during the experiment on insects, hen, mice, rats, guinea-pigs, etc. Obtained results were striking. It was revealed that, for example, if the hen laying eggs together with the food takes larval food, it begins to lay eggs continuously and gains weight, and old hens grow younger.

In our country - the Kharkov Institute of Beekeeping, and abroad – the Columbian University and other scientific-research institutes in the Europe, Canada, America, Mexico and other countries are studying the larval food. The main task of the given

research is to determine the dosage, the ways of administration of the larval food and other issues at the patient's bed.

In 1955 P. Wilson obtained good results during treatment with the larval food of the patients suffering from the nervous and cardiovascular diseases.

Treatment with the bee larval milk is widely applied in many therapeutic institutions of France. The Health Ministry of France adopted the decree concerning wide introduction of the given treatment in the medical practice, in-depth study the action range of the larval food and specification of the administering ways of diluted with the physiological solution of larval food to the organism. The trial research of larval food preparations in the hospitals of Paris is being performed during the last two years. During this time, as a result of the concerned treatment many patients recovered. That is why the decision concerning serial production of the larval food preparations was taken. The preparations of larval food were produced in large quantities under the name of the bee serum (Apiserum).

The above preparation in the form of ampoules is exported to the eastern countries. The best way to administer of the therapeutic preparation of larval food appeared to be the following: the certain dose of the latter is mixed with the insignificant amount of honey and is placed under the tongue. At this the preparation is sucked in quickly.

As loirish noted, these first steps for therapeutic application of the larval food is a beginning of the long road, which should be passed for revealing the secrets of its curative action. "We are able and are obliged to, - writes the author, - establish production of the new preparations of the bee larval food. In this connection the special bee farms will be of great help, that can provide freely with the pharmaceutical production of the bee larval food".

The French physician More underlines that the medicinal means, obtained from the bee larval food together with honey and ambrosia, represents the high quality preventive means hindering ageing and prolonging the human life.

From the larval food in France and America different cosmetic ointments are being prepared, which are popular among the women.

Thus, according to assertion of many researchers, the larval food owing to its vitamin and hormone composition, effects favorably the human organism, it not only strengthens and rejuvenates, but cures many ailments, part of which was not mean to the existing therapeutic preparations.

However, the treatment regimen and dosage, prescription of the physician must be complied with strictly, as the larval food contains vitamin D capable of poisoning.

Each physician and researcher, who undertakes to perform treatment with the larval food, is very cautious and deliberate with respect to this preparation. The beekeeper should be aware of the fact, who in spring and summer obtains the larval food in large quantities. It cannot be taken without dosage and recommendations of a physician. There exists one more very interesting substance secreted only by bees. This is "propolis" (bee-glue) – adhesive gummy substance. The bees add luster with it to the cells, glue over openings in hives, fill irregularities of surfaces, immature penetrated killed enemies so that they do not rot and decompose.

The bees prepare this glue from the pellicle of stamen of flowers, which consist of diluted in essential oils gum (balsam) and of substances of different trees' buds – poplar, willow, birch, etc.

The bee-glue has an antibacterial action and it is applied for treatment of tuberculosis, diphtheria, venereal diseases, leptospirosis, and of streptococcic and staphylococcic infections. The treatment is recommended in the case of pulmonary tuberculosis. It improves the general condition of patients.

As a result of respective research determined that the bee glue contains – 50-60% of gum, 30% of wax, 8-10% of aromatic essential oils, various mechanical admixtures, dust, etc. (I. Kukhianidze, 1963). 10-15% of Vaseline ointment mixed with this glue is a perfect medicinal means for treatment of furunculosis, sties, head scalds and other injuries. Curative effect of the bee glue has not been yet studied comprehensively.

Treatment with the bee venom has a long history. In our reality with the bee venom are treated the following diseases: radiculitis, spinal diseases, arthropathy, infectious and rheumatic polyarthritis, tropical paludism and other diseases.

Histamine contained by the bee venom is applied as an excellent means against high pressure. With the purpose of treatment the bees are placed on the sensitive point. The treatment is started from one bee's sting and one more is added every day.

At bronchial asthma the bees are placed on the area of shoulders, as well as on the breast surface from both sides every other day, adding each time 2 stings, this continued during 30 days. It is well known, this type of treatment of bronchial asthma is more efficient than other existing means.

During last time in our country, as well as abroad, by experimental and clinical studies certain product of honey were determined that may be used as aid during treatment of different diseases.

French authors B.D. Belvefeur and M. Gortele (1965) present interesting data at leukemia and Hodgkin's disease.

When administered to the animal (in particular, a mouse) large doses of the larval food (440 g in a week – perorally) together with other changes were determined: special vital capacity of the animal' change of cortical cerebral layer structure of the adrenal; weight gain; anomalous development and growth, etc.

As a result of larval food application in the patients improvement of the blood formula was observed. Heart occurrences recovered quickly.

By means of larval food ointment E. Malei, M. Pachenovska, D. Zharkushova (1965) Czechoslovakia) treated warts. From 22 patients, 16 of which had youth flat warts, 8 – vulgar warts, after 6-8 weeks after beginning of the treatment obtained good results.

In additions, positive results were obtained against chronic red lupus (Lupus eritomatodes). Dobrovoda (1965) applied larval food at asthma and psychoneurosis achieving excellent results.

According to Molnar-Tot-Magdalena's (1965, Romania) data, propolis or the bee-glue is a natural product made of the material collected by bees from the tree buds of plants, as well as from ambrosia. It is applied at dermatitis displaying good results.

Propolis (bee-glue) accelerates tearing away of necrotic tissues, stimulates the growth of healthy tissues at treatment of wounds, facilitates quick filling of the defect and provides with pathogenic therapy (Z.G. Chanishev et al., 1965).

The authors bring more than 2000 cases of efficient action of these preparations at different surgical and dermatological diseases of a human and domestic animals.

Doctor Dan Walter Stamboliu (1965) applying honey and honey products for treatment of patients suffering from liver diseases obtained encouraging results (124 patients were treated with honey). He recommends to use against these diseases a qualitative value food like honey.

M. Yalomitsianu, K.L. Khristia, Kelin, Butoyanu, Luchia Onitsiu (1965) for treating liver disease applied ambrosia, containing in high composition amino acids and vitamins, especially of the group B. As a result of treatment they achieved quick recovery (in 30-45 days) with controlled protein balance by electrophoretic method, as well as significant clinical improvement of the patients health.

The authors every day gave to the patients 20 g of ambrosia mixed with honey, that in all the cases was assimilated by the organism successfully do not causing any allergic reactions.

The group of physicians of the resort Polanika from Poland (Joseph Matushevskij, Elzbeta Kachor, 1965) owning a large bee farm and a well equipped biochemical laboratory, beginning from 1958 performed studies for revealing the therapeutic properties of the larval food. The research was carried out on squirrels, guinea-pigs and on hundreds of health-resort visitors during their stay at the resort.

The authors determined that larval food effects the human and animal organism. In their judgment larval food is best to take under the tongue; hypodermic injection increases its efficiency very insignificantly; it is better to administer the larval food in the liophilic form; it should be taken during 40 days, once a day in the quantity of 100 mg on an empty stomach. The prolonged administering of the larval food does not effect the blood biochemistry. The larval food has a favorable effect on diseases of particular organs, such as arteriosclerosis, stomach ulcer and duodenum ulcer, liver diseases, as well as common disorders – physical and mental deficiency of children, general emaciation after illness and during the senescence process.

The larval food facilitates normalization of the blood biochemistry disorders. For example, reduces the content of cholesterol and increases content of phosphoric lipids at arteriosclerosis. Matushevskij and Kachor lead the above results to the assumption that larval food does not have a specific effect on the diseases of particular organs, but has an effect on the human organism and this is on the expense of specific nutrition of all the specific organs of the human organism.

The metabolic functioning of the active mesenchyme is very great. Metabolism of the cell substances of the active mesenchyme exceeds many times metabolism of the kidney cells, cells of liver and other organs. The mesenchyme cells are provided with the specialized enzymatic system and produce heparin, histamine and serotonin.

In the case of metabolism disorder of the active mesenchyme the authors consider that the larval food almost always shows the positive effect influencing on the biochemical nature of blood, even when the patient does not feel any change in his condition, that is why the larval food may be applied without any risk in all the cases when the irritable treatment is prescribed.

Matushevskij and Kachor give the research results that was performed during the last two years in the group of 87 patients suffering with arteriosclerosis and stomach ulcer, as well as duodenum ulcer. The results revealed reduction of value from the static point of view of the mesenchyme metabolism, namely, determination of hexose and sialic acid under the effect of treatment with bathes and climate. Visa versa, the other group of patients suffering with arteriosclerosis (28) which during 4 weeks took the larval food, displayed the reduction of hexose from the static point of view and increase of sialic acid in the blood mainly from the static point of view.

During the XIX Congress, that was held in 1963, in Prague, unanimously was adopted the resolution under which the commission in the complement of Tausend (Canada), N.M. Glushkov (the USSR), J. Luveau (France) and Y. Svoboda. The commission had a task to examine the dosage of larval food prescribed at different diseases. Such a decision was conditioned by the different opinions of the authors from various countries concerning the doses of the larval food, for example, the American physicians prescribe large doses of the larval food in comparison with the physicians from other countries; the Russian authors – prof. Egorov and Nichenko determined that the larval food conditions hyper-irritation of the nerves. Biological and clinical value of the larval food changes, apparently, depending on the method of its obtaining and working.

Below we bring the notification of the professor Tausend, Glushkov and Luvéau, as well as the opinion of the Czech physicians with respect to the application of larval food.

The larval food is applied successfully against the following diseases: bronchial asthma; atherosclerosis of cerebrum in different stages; post-infarction periods and chronic disorders of heart coronary vessels; Buerger's disease; degenerate and demyelitic diseases of the central nervous system; neurotic syndromes; arthritis; hypertrophy; in pediatrics – after poliomyelitis; dermatosis, eczema.

In pediatrics the larval food is applied as follows: during the chronic disorder of digestion occurring in children in the age from 4 months to 2 years, suppositories are applied containing 5 mg of the larval food 2-3 times a day; in the elder age the children take tablets 10 mg – two times a day. At digestion disorders, even at chronic, the larval food is applied in the form of suppositories of 5 mg three times a day, during 7-10 days. At cured poliomyelitis the larval food is prescribed in tablets 10 mg two-three times a day. In the above doses the larval food is an excellent corroborant without any side effects.

At brain atherosclerosis of different stages is prescribed 3 tablets in 10 mg a day.

At Buerger's disease – maximum 3 tablets in 10 mg a day.

At myocardium – three times a day in 30 mg during two months.

At stenocardia – three times a day in 10 mg during 20 days.

At post-infarction diseases – three times a day 20 mg of the larval food.

for older people the larval food is prescribed in cycles of 10 days – 10, 20, 30 mg, then the dose is reduced. At excitation of the nervous system very small doses are prescribed 5-10 mg under constant observation of the physician.

At arthritis 500 mg of the larval food in two doses was administered to the patient. Under the experiment 6 g of the larval food a day was prescribed during several months.

To the patient suffering from bronchial asthma the food was given 3 times a day in 20 mg during 2-3 weeks.

At senile asthenia 12 pills 20 mg of the larval food per day is prescribed.

Treatment of the patients suffering from eczema and other dermatosis is performed with 0,5% aerosol – 2-3 times per day by means of sprayer or 10 g of natural larval food during 2 months.

The most famous pharmaceutical products of the larval food.

Apifortil (GFR), capsules with the natural larval food and vitamins.

Apilak (the USSR) , pills of 10 g freeze-dried larval food.

Apiserum (France) ampoules 0.25 g of larval food. DN 112 – Kholzinger (Austria) 10 mg of the larval food and other components.

Roiapan (GFR) – pills of the natural larval food.

Spingavit (Italy) ampoules.

Superconcentrate (Romania).

Ulkojeral (GFR), ampoules.

Vit-apinol (Czechoslovakia), 50 g of the natural larval food.

Still there's no international evaluation of the preparations containing the larval food.

The following should be determined: a) value of the larval food on the basis of chemical analysis or on content of panthothenic acid or 100 hydrate – 2-decene acid; b) unified biological test.

Thus, the bee and products of its vital functions (honey, larval food, venom, etc.) are still wreathed in dark and are full of secrets. Apparently, in the bee organism hides the secrets of hormone compounds capable of regulating different biological processes,

and working out of which is inherent especially to the bee secretory cells and to no other biological organism, as well as to no other artificial device.

In order to determine the therapeutic properties of honey the Bulgarian scientist Stoimir Mladenov (1965) studied many different sorts of honey. On the basis of obtained data, the author recommends to apply it against the following diseases: chronic and acute rhinitis, pharyngitis, sinusitis, laryngitis, tracheitis, bronchitis, bronchial asthma, colpomycosis, erosion of the uterus cervix, etc.

In 1948 at the surgical clinic II of the Moscow Medical Institute, named after N.I. Pirogov, Professor Zaitsev performed treatment with honey.

It is known that the bee is fed with nectar and anther dust of plants containing carbohydrates, proteins, fats, vitamins, mineral salts, essential oils, phytoncides and such microelements as manganese and copper. They are worked in the melliferous stomach of the bee. From nectar the honey is received, and laid in the hives anther dust covered with honey is subjected to the complex chemical changes and is transformed into the special substance "ambrosia". The ambrosia contains many different vitamins and that is why it together with honey and butter is given to the children and convalescent patients. Honey comprises a large quantity of carbohydrates – grape-sugar necessary for feeding heart muscles of the human, as well as – many ferments having favorable action on metabolism. Honey also comprises necessary for a human being calcium, sodium, potassium, magnesium, iron, phosphoric salts, vitamins of the group B, vitamin C, carotene, as well as antibiotics.

The larval food contains 20 different amino acids necessary for the human organism, many vitamins. The larval food improves metabolism, heart functioning, increases appetite, resistibility of the organism, has favorable effect on functioning of sexual glands. The author considers the bee venom (apitoxin) to be the most valuable. It dilates capillaries, increases inflow of the blood to the diseased organ, reduces viscosity and coagulability of blood, facilitates increase of the protective forces of the body, reduces ache. The bee venom stimulates work of the heart muscle, has a favorable effect on metabolism, reducing the cholesterol quantity in the blood (G.P. Zaitsev, 1965).

And finally, a very interesting article was published by the academician N. Tsitsin "Secret of the Ambrosia" discussing the reasons of the enviable longevity of bee-keepers and other people dealing with honey.

"The ancient Greek considered that the Olympus gods were immortal due to their food ambrosia and drink nectar". Nectar – is a juice excreted by the nectarines of flowers. The bees collect the nectar together with ambrosia contained in hive that is often deemed as an undesirable admixture polluting honey. The author presents his personal observations with interesting conclusions. He focused his attention on the following occurrence – among the people 100 years and more old, the large majority is bee-keepers or those who work in bee-gardens. What is the matter? May be the profession nature has a decisive meaning? May be calm and beautiful work of the bee-keepers defines existence of the balanced nervous system providing longevity? The author during his conversations with the bee-keepers was able to determine that they use honey together with precipitants of ambrosia or comb-honey. Here we may conclude that, apparently, ambrosia together with nectar honey stimulates the metabolism in the organism having therapeutic effect.

The author says that the science and practice have proved that the bee honey is very useful and indispensable product. The most useful for the human organism is the comb-honey comprising not only worked by the bees nectar, but some quantity of ambrosia.

The science is still expected to reveal the reasons of therapeutic properties of non-purified honey. The author writes that "ambrosia according to its action on the

organism may be compared with the functioning of endocrine glands. If ambrosia is considered from the physiological point of view – this is a product of man genitals of a plant. It contains different substances, many of which are yet unknown. Among this complex set of the chemical substances a special role is played, apparently, by proteins, in particular, ferments accelerating and regulating life processes.

That is why effect of the ambrosia may be compared with the functioning of the endocrine gland" (N. Tsitsin, 1965).

Thus, unpurified honey stimulates metabolism in the organism making a human being more resistant and prolongs his life. Honey is most useful for the human body, comb-honey containing not only worked by the bees nectar, but some quantity nectar, but a certain quantity of ambrosia.

THE ISSUE OF MALIGNANT GROWTH AND TREATMENT THEREOF

The problem of tumor is a most actual and sore unsolved issue of the present.

Among all the diseases malignant growth occupy one of the first places according to mortality. In all the civilized countries the scientific-research institutes studying tumor have been established. Hundreds of the new scientific works have been published and still are being published.

Very often the world congresses of oncologists are held, where the scientists from the whole world share with the theoretical and practical issues of origination and treatment of tumor.

According to Dorne data during 1944 in the USA on each 100.000 of population take ill with the malignant tumor 430 people. From 10 cases of mortality one is due to tumor. The tumor strikes a man in the most creative and capable of working age.

As indicated by Petrov (1958) on our planet due to the malignant tumor die more than 2 millions of people, if we consider that longevity of life sick with tumor is equal to 2-3 years, then on the earth live 5 millions of people suffering from tumor.

Still 100 years ago one of the founders of oncology R. Vikhrov (1948) wrote: "I do not think that there's a person who would answer to the question, what tumor is?". After 50 years the follower of Vikhrov Bort (1900) repeated the same idea. More than 50 years have passed, but at present nobody is able to declare that he is aware of the nature of tumor origination.

The researchers of the past century considered it to be a local pesthole disease of the tissue. Nowadays, the tumor processes are considered as dystrophic, proliferative reaction of the organism caused by various detrimental factors exogenous or endogenous, congenital or acquired which cause stable disorder of metabolism in tissues and cells. As a result of cell metabolism disorder begins impetuous growth. In development of tumor apart from the local facilitating factors (trauma, irradiation, etc.), the decisive role is played by the general diatheses of the organism to the tumor expressed in disorder of nervous and endocrine system with weakening and inhibition of protective biological properties of the organism.

Tumor differs from all the known infectious inflammatory diseases in that the malignant growth may actively embrace absolutely all the kinds of tissues and cells of the organism, muscle, vascular, haematogenic, etc. All the above mentioned cells may change, degenerate in the tumor cells and acquire characteristic for tumor properties (tumor transformation, infiltration, intrusion upon the adjacent tissues, decomposition, etc.).

The tumor differs from the physiologically normal hyperplasia and infectious inflammatory proliferation by its unrestricted impetuous growth; it continuous to grow even after removal of facilitating its origination reasons. None of the known anti-mitotic means is not capable of changing the mitotic process in the malignant tumor, this is one

of the reasons of progressive reproduction of the tumor cells not obeying to any regularity. Some of the tumors according to their biological function preserve secretory properties characterizing the normal tissues giving birth to the tumor. "Thus, malignant tumors are special, i.e. unique, manifestation of pathological life of the organism" (N.N. Petrov, 1958).

At present there exist two main theories of tumor origination: virus and biochemical.

Under the biochemical theory in the organism is formed a carcinogen, as a result of which in an organism is formed a tumor.

In 1937 L. Shabad from the liver of the person that died from the stomach cancer isolated benzol extract of carcinogen by means of which during an experiment he received tumor and sarcoma. These experiments were repeated by the author in 1940 on a larger material obtaining the same results. In similar cases induction of tumor was possible as well by application of the benzol extracts from the liver of persons that died from other (non-tumor) diseases. During the experiments they were able to mark more carcinogenic activity of the extracts obtained from the organs of persons that died from tumor, than from the organs of people that died from other diseases.

Consequently, the existing factual material proves that from the human organism may be isolated chemical substances capable of causing origination of tumor and other malignant growth. Followers of the carcinogenic theory do not deny the role of virus. According to their opinion the virus is an etiological factor, it is a result of the tumor cell metabolism (formed product). To prove this they bring the fact that virus was not observed in the process of tumor origination.

According to the virus theory (A. Zilberg, A. Timofeeva), the virus is an etiological factor of tumor. In this respect interesting was obtaining sarcoma from hens without extraction of tumor cells and revealed by Bitner the factor of milk. Tumor in the young generation originates in the age of 7-12 months. The milk of female of the high tumor line causes origination of malignant growth in mice at hypodermic injection and after preliminary treatment – centrifugation and filtration. There exist several virus strains of tumor, carcinoma Erlich, hen sarcoma of Rouse, etc. In difference from the infectious viruses the tumor virus is not characterized with infectious properties. it may exist in the organism in dormant condition during many years.

In connection with the ways of penetration some authors contend that it occurs in the organism by exogenous ways, the others, on the contrary, consider it to be a product of the organism cells vital functions formed as a result of metabolism.

The main target of the given works is to create a therapeutic preparation that would enable destroy the malignant tumor cells or transform them into normal. On the first stage we should suffice with the possibility of delay or inhibition of the tumor cells.

In this direction different domestic, as well as foreign, preparations have been proposed by the authors.

In 1941 M. Magata proposed the original method of treatment based on the idea of suppressing metabolism in the malignant tumor. The author proceeded from the fact that for reproduction of the malignant tumor cells existence of ascorbic acid is required without which the tumor cells are not able to reproduce. With this purpose he applied autoxidizable iron compounds for stable oxidation of ascorbic acid in the tumor tissues and obtaining of "the experimental scorbutus of tumor". As a therapeutic preparation a complex compounds of iron with the tartaric acid were applied.

During the experiments on animals inhibition of growth was observed in fact, and in some cases resolution of the part of transplantable tumor, but this action was not stable, and in the clinic therapeutic results were not obtained.

The idea of the author, certainly, deserves attention and at present works in this direction are being performed by many researchers.

At the Institute of Therapy and Pathology of Tumor, Academy of Sciences of the USSR, for treatment of the seminal glands was applied the preparation sarcomycin. At that resolution of the tumor metastases was observed. It proves once more the possibility of suppression and resolution of the malignant tumors under the effect of parenteral administering of the chemical and therapeutic substances.

In 1941 the Soviet scientists created a number of hormone preparations: sinsestrol and diethylstilbestrol, woman sex hormones which are effective at treatment of the neoplasms of prostates, as well as testosterone propionate, man sex hormone applied at tumor of ovaries and mammary glands.

Application of the above hormone preparations is based on the antagonist action of the opposite sex that was proved by experiments.

It should be noted that works concerning chemotherapy of tumors in our country, as well as abroad, are performed in several directions:

I. Creation of hormone preparations to which the above mentioned hormones belong;

II. Preparations of antimetabolic character action of which is aimed at blockade of metabolism in the tumor tissue. This group includes the following preparations:

1. Aminopterin applied at acute leukemia. This preparation is toxic and causes ulceration of cistern and mucous of intestines in children. Suppressing the function of marrow, it facilitates the development of side effects – bleeding, anemia, secondary infections, etc.

2. 6-merkaptopurin is more efficient at acute leukemia and is less toxic.

3. Uretan – and other preparations.

4. Anti-tumor antibiotics: sarcomycin, azaserine, actinomycin, pyrimicin, neocide, etc. But they are toxic and due to this fact are not applied widely in the clinic.

5. Medicinal preparations: cholkhicine, cholkhamicin, podofilin. They are all toxic and are not used chemically.

We for treatment of malignant neoplasm have proposed the preparation M-1, the new name Camelyn, obtained from honey with anti-tumor action.

Testing of the above preparation in the experiment, as well as in the clinic, has been performed from 1949 (under the direct instructions and consultations of the Academician K.D. Eristavi).

The preparations revealed a favorable action as in the case of certain tumors, so at other diseases. Apart of its antibacterial action, it has a favorable effect on the general condition, stimulates and improves blood picture, increases appetite, after which a subjective improvement of the patient's condition is received. It may be used at treatment of the malignant neoplasms on any stage.

OWN MATERIAL

EXPERIMENTAL RESEARCH

The therapeutic properties of honey have been studied by us from 1946. During the first years of our work when the antibiotics were not widely available, taking into account the antiseptic properties of honey, we applied it for treatment of septic wounds. We attempted to apply honey in the form of an injection in the purulent cavities, at phlegmon and mastitis. But it appeared to be unsuccessful – injection of honey into the closed cavity caused heavy inflammations and sometimes even necrosis of tissues.

As a result of the above failures we got an idea of isolation carbohydrates from honey. We in 1946-1948 obtained from honey different glycopival fractions. Action of the obtained by us from honey liquid under the name of preparation Camelyn was

tested for treatment of the septic wounds, as well as for prevention of infecting. It appeared that action of the preparation Camelyn is far more efficient, than of the initial material – honey.

Making sure in the stimulating properties of the preparation Camelyn, we started to apply it during the post-operation period for accelerating of healing of the operation wounds and obtained excellent results.

During the experiment the dogs were injured maintaining aseptic conditions. For part of the animals the wound was dubbed with the preparation Camelyn or with honey after which the wound was closed hermetically, for the other part of animals – the wound was healed without preliminary dubbing with honey or the preparation Camelyn. From the first, as well as the second animals after the definite interval of time (6, 12, 24, 48, 72 hours) by means of biopsy was taken material for microscopic studies of the regenerating wound surface. Respective histomorphologic studies were formed under consultations of the Academician V.K. Zhghenti, prof. S. Sakvarelidze, prof. A. Jorbenadze. The results of experiments were the following:

In the cases, where the wound surface was treated with the preparation Camelyn or honey, during the first hours of study rich development of the granulation tissue being on the stage of maturation was observed. The younger granulation tissue was presented by small quantity of fibrin exudation with homogeneous elements and solitary connective tissue cells along the wound edges with small extravasates.

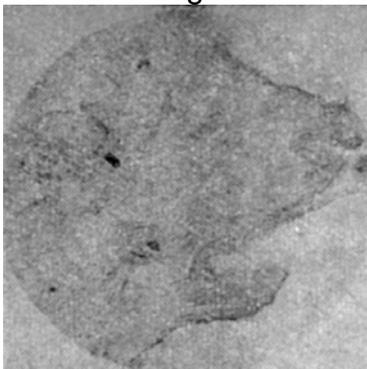


Fig. 1

Section of biopsy material taken after 24 hours (treated with honey)

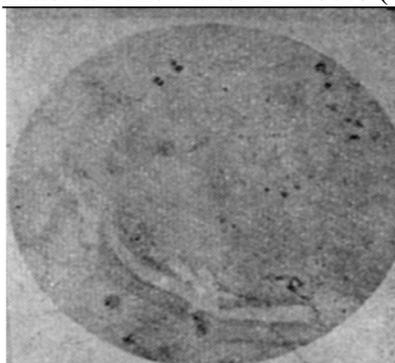


Fig. 2

Section of biopsy material taken after 24 hours (not treated with honey)

On the basis of the material taken after 48-72 hours are presented more mature granulation tissue, large quantity of fibrocytes, young tender fibrous tissue. Blood elements are few, there are relatively small quantity of blood vessels.

In the control group granulation tissue rich with blood elements, especially leucocytes dispose mainly close to the blood vessels, was marked.

Connective tissue elements were developed relatively poorly, they contain fibroblasts and fibrocytes, but in the wound they did not reach maturity.

Further the preparation Camelyn was studied for bactericidal action, applying cultures of virulent microbes. At the Tbilisi Medicinal Complex, Candidate of the Medical Sciences N.V. Egizarov (1951) studied 64 different microbe groups separated from patients.

34 cultures of *Staphylococcus aureus*, 14 cultures of colon bacillus, 5 cultures of *Proteus*, 2 cultures of blue pus bacillus, 6 cultures of typhus-paratyphoid group microbes, 1 culture of dysentery bacillus. In total 62 cultures. Bacteria were cultivated on the nutrient medium diluted with our preparation (1,25%, 2,5%, 5%, 10%, 20% and 40%).

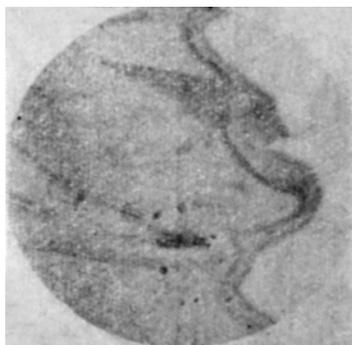


Fig. 3

Material taken after 72 hours (treated with honey).



Fig. 4

Material taken after 72 hours (not treated with honey).

Following results were obtained: 5% solution of the preparation Camelyn revealed its bactericidal action after 24 hours, 10% - after 4 hours, 15% - after an hour, 20% - after 30 minutes, and 40% - after 15 minutes (Table 1).

In 1950 at the Tbilisi Scientific-Research Institute of Vaccines and Serums we performed tests with the culture of *Mycobacterium tuberculosis*. The tests were carried out according to the following system (the tests were headed by the specially established Commission of the Institute, under the direction of the Institute Director – Candidate of Medical Sciences Bokuchava):

Table 1

Influence of concentration and pH of the preparation on viability of gram-negative bacterium staphylococcus isolated during diseases of a human at different terms of contact

pH of the preparation	Name and pH of medium	Concentr. of preparation	Volume of liquid in test-tubes	Quantity of microbe bodies mln	Results of bacteriologic research at seeding after the different terms of contacts										
					15 min.	30 min.	45 min.	1 hour	2 hours	3 hours	4 hours	5 hours	25 hours	several days	
pH 3,04	Mib pH 72	1,25%	2 mm	25 mln 50 mln 100 mln 200 mln	+	+	+	+	+	+	+	+	+	+	+
"	"	2,25%	"	"	+	+	+	+	+	+	+	+	+	+	+
"	"	5%	"	50 mln 100 mln 200 mln 250 mln	+	+	+	+	+	+	+	+	-	-	-
"	"	10%	"	"	+	+	+	+	+	+	-	-	-	-	-
"	"	15%	"	"	+	+	+	-	-	-	-	-	-	-	-
"	"	20%	"	"	+	-	-	-	-	-	-	-	-	-	-
"	"	30%	"	"	+	-	-	-	-	-	-	-	-	-	-
"	"	40%	"	"	-	-	-	-	-	-	-	-	-	-	-
"	"	Contr.	"	"	+	+	+	+	+	+	+	+	+	+	+
pH	"	20%	"	200 mln 250 mln	+	+	+	+	+	+	+	-	-	-	-
"	"	40%	"	"	+	+	+	+	+	+	-	-	-	-	-
"	"	Contr.	"	25 mln	+	+	+	+	+	+	+	+	+	+	+

Mycobacterium tuberculosis was cultivated on 5% solution of the preparation Camelyn, pH of the nutrient medium was equal to 7,1. During 2 months incubation at the temperature 38° growth of Mycobacterium tuberculosis was not observed, when in the control soil the normal growth of the culture was observed for 17 day. In the second series of tests Mycobacterium tuberculosis after preliminary incubation in the preparation Camelyn during 3-6 hours was cultivated on 5% pure glycerin broth at 38° in thermostat. During 2 months watch culture did not grow, when during control the growth was obtained on 18th day.

The control seeding gave a normal growth.

pH of the 5% glycerin broth from 5, 10 and 20% content of preparation (7,1) was achieved by repeated alkalization of the latter (10% NaOH).

Together with the Senior Researcher, physician of the Pasteur Department of the Tbilisi Scientific-Research Institute of Vaccines and Serums, Doctor A. Aleksidze, we tested the action of the preparation Camelyn on the rabies virus. 16 rabbits were tested: 8 laboratory and 8 control. To the control animals was injected subdurally` Pasteur laboratory virus in dilution 1:20 in the quantity 0,2 cm³. To the laboratory group of animals was injected subdurally the same virus diluted (1:20) in 20% solution of the preparation Camelyn. In 5 days after injecting of the virus all the control animals died with the full picture of rabies. In the laboratory group the clinical signs of rabies were not observed. 3 rabbits from this group after 5-6 months developed paresis of hind legs, without any clinical manifestation of rabies.

The second series of tests we performed in the following way: 4 rabbits were injected subdurally nirusfix in dilution 1:20 (with the purpose of generating rabies) and in 24 hours after the injection began treatment with the preparation Camelyn, 20% solution of which was injected intravenous.

Two rabbits on the fifth day of the tests developed the signs of rabies and they died, two of them survived.

Thus, making certain of the fact, for further approbation of the wide range of bactericidal action of the preparation Camelyn and obtaining of an official conclusion about its appropriateness was directed to the Director of Experimental and Clinical Surgery and Hematology of the Academy of Sciences of the USSR, Academician K.D. Eristavi. Here an idea of studying the action of the given preparation on the malignant neoplasm was born. We proceeded to the study from 1950.

The first research was performed concurrently on the experimental tumors at the Chair of Pathophysiology, Head Academician Sh.V. Voronin, of the Tbilisi State Medical Institute, and on toxicity of the preparation at the Institute of Experimental and Clinical Surgery and Hematology (Director Academician K.D. Eristavi).

The tests were performed on white mice diseased with tumor of mammary gland.

As a result of these observations was ascertained that the preparation Camelyn inhibits the development of tumor, at the same time facilitates involution of the developed spontaneous tumors. Histomorphological tests of the latter revealed the existence of hemorrhage in tumor stroma and necrosis of the tumor cells (Fig. 5, 6).

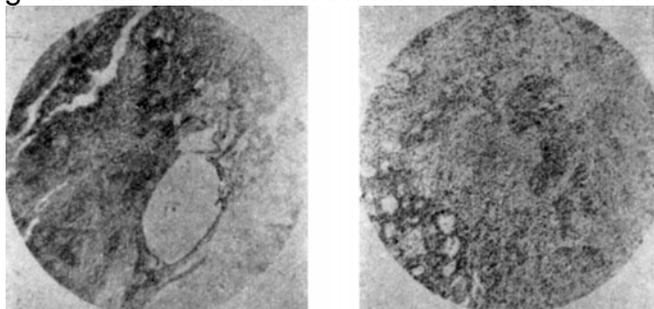


Fig. 5 and 6

Adenocarcinoma of muscles after treatment (spontaneous tumor)

The preparation was tested on toxicity beforehand. Lethal and toxic doses of the preparation Camelyn were determined by means of white mice, guinea-pigs and dogs (the research was performed under the direction of the Academician K.D. Eristavi and direct assistance of the scientific worker G.Y. Odishvili, 1951).

It was found that the white mice weighing 30-39g assimilate well the subcutaneous injection of 0,5 ml 20% solution of the preparation Camelyn. For illustration see several hemograms of the white mice (N1, N2, N3 and N4).

Observations performed on mice during a month proved that this dose is not toxic. The mice gain weight, reproduce, do not change their behavior.

In composition of the blood of the part of animals insignificant increase of the leucocytes on the expense of neutrophils, but it does not exceed the scopes of norm. Autopsy of the animals after 30 days of observation no pathological changes in the internal organs were not marked.

20% of solution of the preparation was injected subcutaneously in the quantity of 9 ml the weight of animals being 275 g, in the quantity 11 ml – the weight of animals being 3000 g, etc. The dose appeared to be lethal. All the animals died on the second day after injecting of the solution. By autopsy and histomorphological studies of the organs was determined that this dose causes dystrophic occurrences in the parenchymatous organs of the guinea-pigs.

Sharp dystrophic occurrences were marked in kidneys, as well as cyanosis and stasis; in adrenal glands – hemorrhage, in the heart muscle – edema.

During the following series of tests the preparation dose was reduced twice: to the guinea-pig the weight being 300 g 3-4 ml of preparation was injected. 345 g – 6 ml, etc. Part of the animals died, the other survived and gained weight. During the last series of tests 2 ml of the preparation was injected. It appeared that subcutaneous injection of 20% of the preparation Camelyn in the quantity 2 ml the guinea-pigs withstand well, even injected every day during 20-25 days. During life, as well as after autopsy of animals no pathological changes were marked.

To the dogs during the first series of tests the preparation Camelyn was injected in a large dose. For example, the dog weighing 43,5-165 ml. In spite of such a large dose, they withstood the preparation, felt well, did not change behavior, preserved playfulness and appetite.

During the second series of tests on dogs we decided to test the effect of comparatively small doses of the preparation. The dog weighing 13 kg was injected intravenously 65 ml of 20% preparation; the dog weighing 14 kg – 46 ml, and the dog weighing 16,5 kg – 55 ml.

Hemogram of the white mouse N 1, weight 29.0
(14/IX-1951 was injected subcutaneously P N 1-20%-0,5 cm³)

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
HB	-	-	-	59%	42%	66%
Er	10.410	9.600	9.500	8.600	8.650	8.910.00
L	6.000	10.000	12.000	8.400	11.200	12.200
Retic	232%	338%	-	-	-	274%
H. Ko	3.5%	1%	1%		0.5%	1.0%
H. seg.	43%	33.5%	16%	22%	26%	22%
Lymph.	40%	46.5%	68%	68.5%	61.5%	58%
Monocyt.	10.5%	12%	13.5%	9%	9.5%	17%
Eosinophils	1.5%	2.5%	0.5%		1.5%	-
Eos.	1.5%	4%	1%	0.5%	1%	1%
Norm.	1:200	-	-	-	-	1:200
Jolli	1:200	3-4:200	Seldom	3:200	single	14:200
Turk	-	-	-	1:200	2:200	1:200

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
Hemog.				59%	42%	36%
Eryth.	10.41000	9.600000	9.500000	8.600000	8.650000	8.910000
Leukoc.	6000	10.000	12.000	8.400	11.200	12.200
Retic.	232%	338%	-	-	-	274%
70						
60						
50						
40						
30						
20						
10						
2						
1						
0.5						
	Segm.	Hem.	Lymph.	Mon.	Eoz.	Bas
Normob.		-	-			
Jolli	1:200	3-4.200	seldom	3.200	single	
Turk	-	-	-	1.200	1.200	

No1-a

**Hemogram of the white mouse N 2, weight 30.0
(14/IX-1951 was injected subcutaneously P N 1-20%-0,5 cm³)**

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
HB	-	73%	-	80%	83%	73%
Er	11.060	9.730	7.770	8.750	12.500	10.660.00
L	7.000	12.400	16.000	10.700	9.000	12.300
Retic	140%	109%				50%
H. Ko	0.5%	2%	1%	1%	25%	0.5%
H. seg.	37.5%	21.5%	17%	25%	22%	16.5%
Lymph.	52%	69.5%	72%	69%	58.5%	76.5%
Monocyt.	3.5%	2%	5%	1%	3%	1%
Eosinophils	2.5%	1%	2%	2.5%	7%	2%
Eos.	3.5%	4%	3%	1.5%	7%	4%
Norm.	-	-	-	-	-	
Jolli	4:200	3:200	-	3:200	single	1:200
Base	0.5%	-	-	-		
Turk			1:200			

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
Hemog.	-	73%	-	80%	83%	73%
Eryth.	11.060000	9.730000	7.770000	8.750000	12.500000	10.680000
Leukoc.	7000	12.400	16.000	10.700	9.000	12.300
Retic.	140%	109%	-	-	-	50%
	Segm.	Lymph.	Mon.	Eoz.	Bas	
	-	-	-			
	4:200	3.200	-	3.200	single	

No2-a

**Hemogram of the white mouse N 3, weight 25.0
(14/IX-1951 was injected subcutaneously P N 1-20%-0,5 cm³)**

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
HB	-	84%	76%	73% %	76%	60%
Er	11.060	11.900	8.010	10.100	10.100	9.250.00
L	6.500	13.000	10.600	8.000	10.200	5.400
Retic	250%	251%	-	-	-	73%
H. Ko	0.5%	2	1.5%	1.5%	0.5%	0.5%
H. seg.	22%		21.5 %	43%	23.5 %	27%
		18 %	23 %	44%	24%	27.5%
Lymph.	63.5%	76%	71%	52%	70%	66.5%
Monocyt.	6.5%	3%	2.5%	2.5%	1.5%	1%
Eosinophils	3%	1%	2%	0.5%	2%	0.5%
Eos.	4.5%	2%	0.5%	0.5%	2.5%	4.5%
		3%	2.5 %	1%	45 %	5%
Base	-		1%	-	-	
Norm	1:200	-	-	2:200	1:200	
Jolli.	3:200	1:200	about 10 per 200	4:200	single	2:200
Turk	-	-	1:200	2:200	-	1:200
Polychr.	+	+	+	+	+	endothelial cells 1:200

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day

Hemog.	-	84%	76%	73%	76%	60%
Eryth.	10.000000	11.900000	9.600000	8.010000	10.100000	9.250000
Leukoc.	6500	13.000	10.600	8.000	10.200	5.400
Retic.	250%	251%	-	-	-	73%
80						
70						
60						
50						
40						
30						
20						
10						
2						
1						
0						
	Segm.	Lymph.	Mon.	Eoz.	Bas	

No3-a

Hemogram of the white mouse N 4, weight 30.0
(14/IX-1951 was injected subcutaneously P N 1-20%-0,5 cm³)

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
HB	-	63%	66%	68%	71%	63%
Er	8.310	7.000000	9.500	8.250	10.050	8.450.00
L	15.200	12.600	9.000	7.600	10.000	10.000
Retic	340%	300%	-	-	-	45%
H. Ko	0.5%	1.5%	0.5%	0.5%	0.5%	0.5%
H. seg.	38%	21.5%	29%	29.5%	14%	43.5%
Lymph.	52%	66%	59%	56%	76.5%	51%
Monocyt.	5%	7.5%	6%	4%	5%	4%
Eosinophils	2%	1%	2%	1.5	2%	-
Eos.	2.5%	2.5%	3%	8.5	4.5%	1%
Norm.	-	-	-	1:2000	-	-
Jolli	1:200	Seldom	up to 10:200	single	single	
Turk	-	-	+	-	1:200	lymphoc. with 2 nucl. 2:200
Base	-		0.5%	-	-	
Polychr.	+	lymph 2 nucl. 2:200 endoth. cells 2:200	+	+	+	

	Before	2 nd day	5 th day	10 th day	20 th day	30 th day
Hemog.	-	63%	66%	68%	71%	63%

Eryth.	8.310000	7.000000	9.500000	9.250000	10.050000	8.450000
Leukoc.	15.200	12.600	9.000	7.600	10.000	10.000
Retic.	940%	300%	-	-	-	45%
70						
60						
50						
40						
30						
20						
10						
2						
1						
0.5						
	Segm.	Lymph.	Mon.	Eoz.	Bas	

No4-a

Not only the behavior of the animals was observed, but the blood pressure, respiration, medullogram and hemogram, see the respective hemograms 1, 1^a, 2, 2^a, 3, 3^a, 3^b, 4, 4^a, 4^b, 5, 5^a, 5^b.

With the purpose of studying the effect of the preparation on the blood pressure and respiration, the tests were performed on 9 dogs. The dog No 1, weighing 13 kg, 20% solution of the Camelyn was injected intravenously, in the quantity 170 ml³ during 2 minutes and 30 seconds, accordingly, about 13 ml on 1 kg of the animal weight (kymogram 1). The blood pressure during the first seconds of the preparation injection dropped from 84 ml of mercury column to 45 ml. During the following seconds it began to improve and at the end of injection it became 90-96 ml, after 20 minutes after injection it returned to the initial value. Control of the dog was carried out during a month. During the term no pathological changes were marked (hemogram 1).

The dog N 2, weighing 16 kg, 495 ml of 20% solution of the preparation was injected intravenously during 40 minutes and 38 seconds (kymogram 2). Before injection of the preparation it increased to 120 mm, and then reduced to 110 mm. During the one month control no pathological changes were marked in the dog (hemogram 2).

The dog N 3, weighing 13 kg, 65 ml of the preparation was injected intravenously during 3 minutes and 22 seconds. It makes about 5 ml of 20% preparation per 1 kg of the animal. The blood pressure of the given dog before injection was 60 mm, during the first minutes after injecting it dropped to 40 mm, and after 10 minutes returned to the initial index and was preserved to the end of the test. The control was performed during a month (hemogram and kymogram 3).

The dog N 4, weighing 14 kg, the preparation was injected intravenously in the quantity of 46 ml during 4 minutes and 30 seconds, accordingly, 3 ml of 2% solution of the preparation Camelyn per 1 kg of the animal weight. The blood pressure during the preparation injection was preserved on the initial level (110 mm). Immediately after its injection it dropped to 100 mm, and after 40 minutes after the injection to 30 mm, and after 50 minutes returned to the initial value. No changes were observed in respiration. During a month control no pathological changes were marked in the dog (hemogram and kymogram 4).

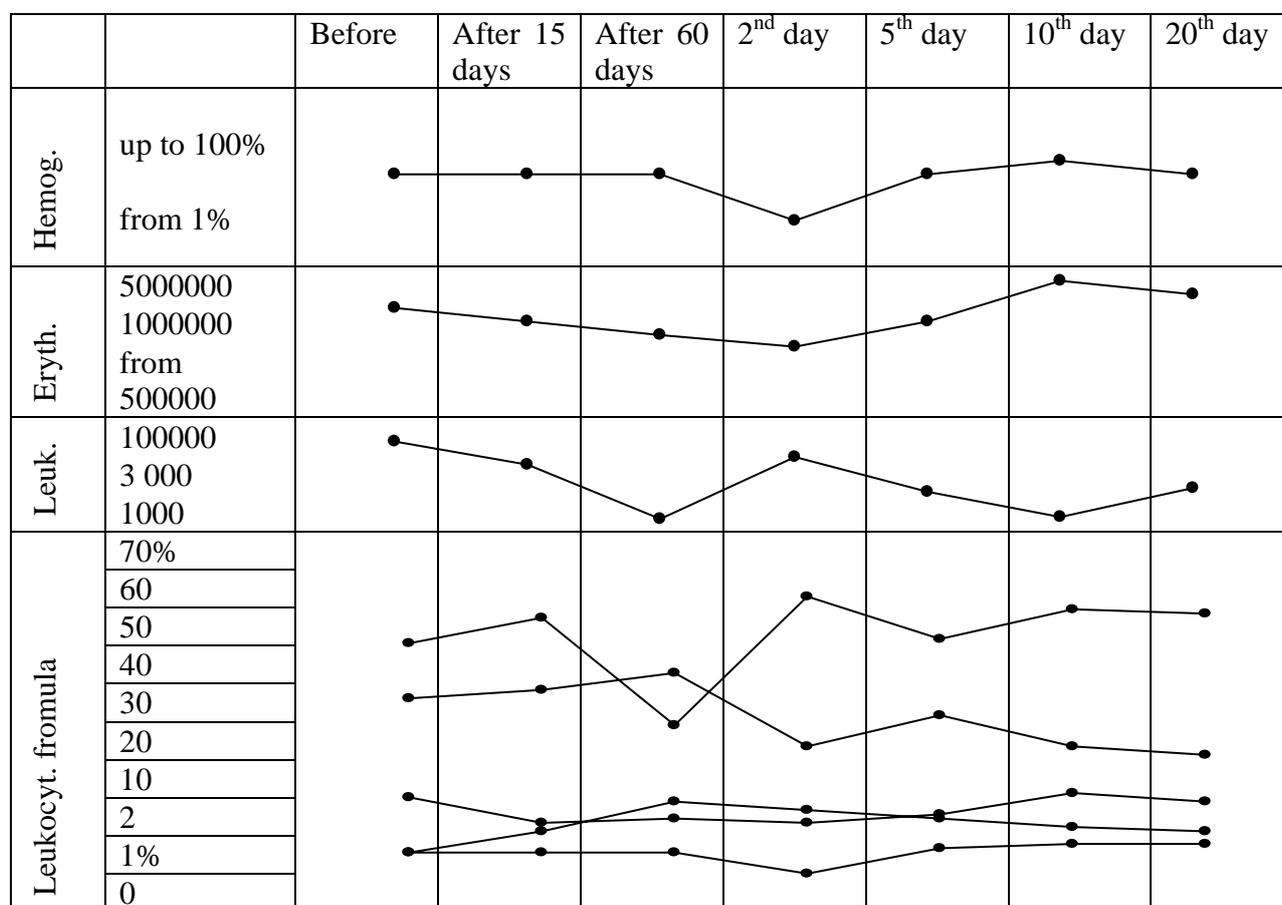
The dog N 4, weighing 15,5 kg, 50 ml of 20% solution of the preparation Camelyn was injected intravenously during 5 minutes, about 3 ml per 1 kg of the animal weight. Before the preparation injection the blood pressure increased to 99 mm, and in 10 minutes returned to the initial level and was preserved during the whole test. The

control was performed during a month. The pathological changes were not observed (hemogram and kymogram 5).

Thus, the preparation Camelyn injected to the animals in the definite dose does not cause any toxic events.

Hemogram of the Dog N1

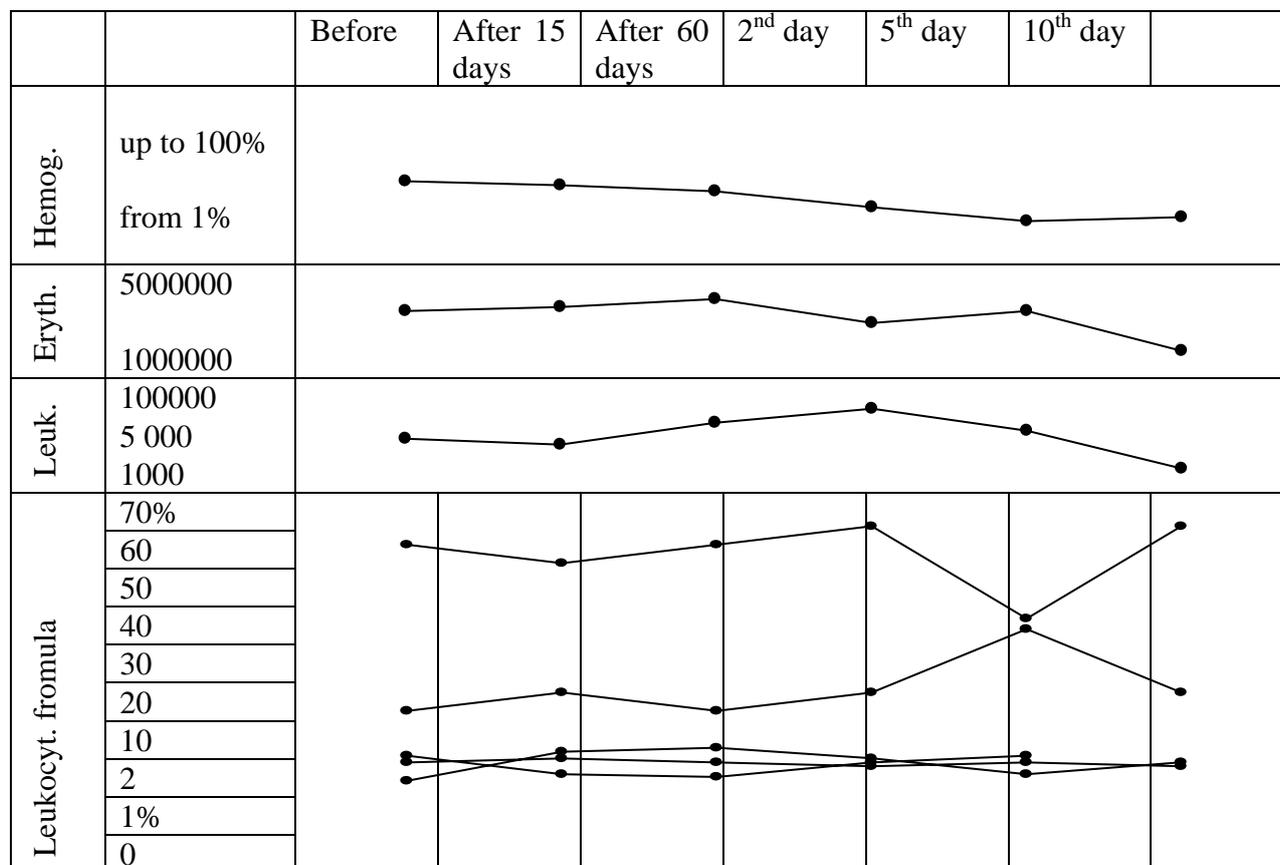
	Before	in 15 after inj of prep.	In 1 hour after inj.		2 nd day		5 th day	10 th day	20 th day
Hb	52%		52%		38%		45%	49%	50%
Er	3.290	-	3.180		3.150		4.000.000	4.410	4.450
fJ	0.78	-	0.81	0.61					
Ret.	40%		43%	Normoblast ortho - 30:200 "-" poly - 31:200 Polychr. cells 3:200	83%	Normplasta ortho- 4:200	25%		
Ret. K.M.	60%	-	-		192%		46%		-
P	1.0	2.0	13.0		7.5		4.0	3.0	3.2
S	49.0	57.0	34.5		610		51.0	57.0	56.0
L	36.0	37.0	45.5		25.0		36.0	25.0	28.0
M	13.0	3.0	5.5		6.0		8.0	14.0	12.0
E	1.0	1.0	1.0		0.5		1.0	1.0	1.0
B	-	-	0.5		-		-	-	-



N01-a

Hemogram of the Dog N2

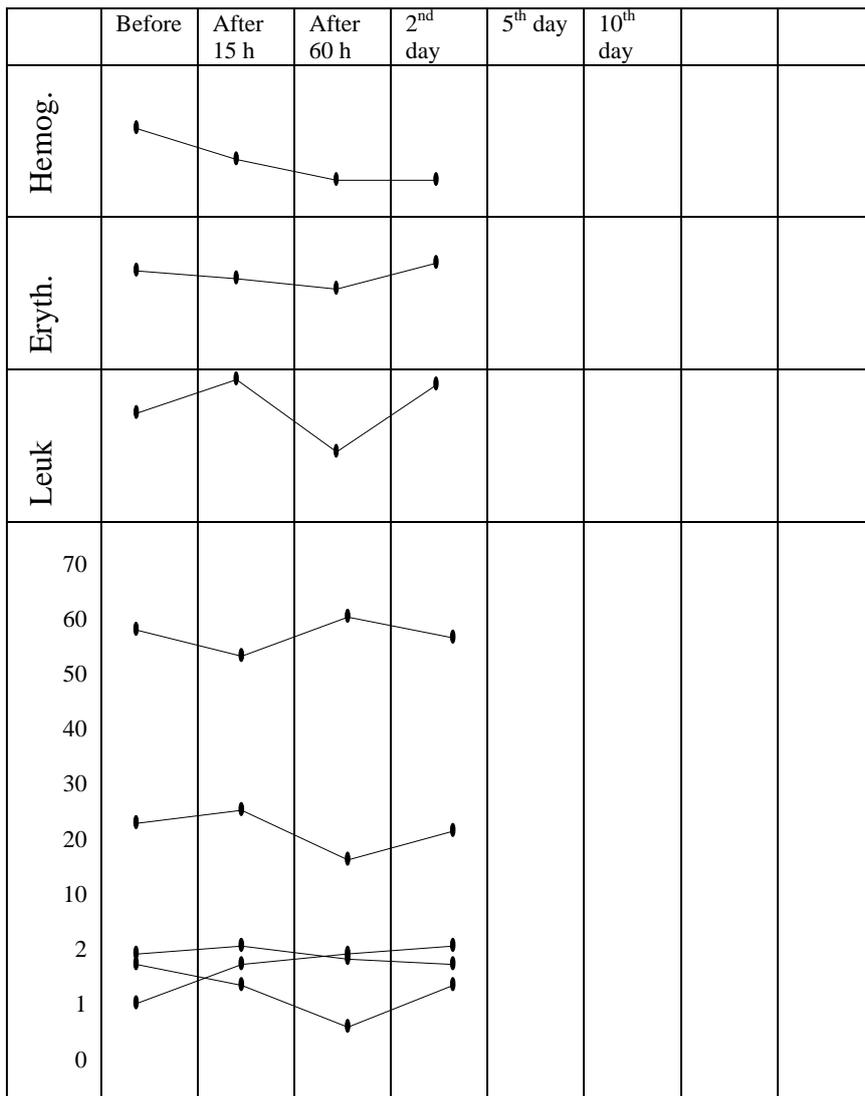
	Before	in 15	In 1 hour after inj.		2 nd day		5 th day		10 th day
Hb	56%	-	54%		51%		62%		45%
Er	4.610	-	5.200		5.000000		4.900		4.600
fJ	0.6		0.51		0.51				
L	8.600	8.400	9.100		20.000		13.000	Immature polychromia was marked	11.500
Ret.	22%	-	20%		25%		18%		
Ret. K.M	70%	-	-		-		-		
P	1.0	5.0	4.0		30		70		-
S	65.0	57.0	69.0		68.0		45.0		68.0
M	6.0	6.0	4.0		3.0		3.0		50
E	8.0	4.0	3.0		5.1		3.0	5.0	
B	-	-	0.5		-		-		-



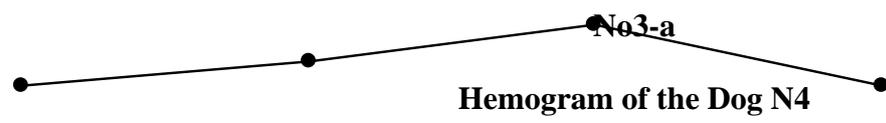
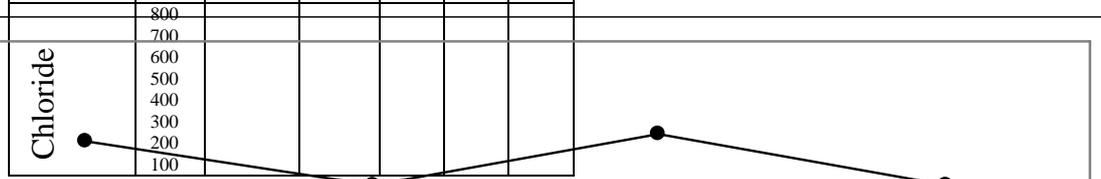
No2-a

Hemogram of the Dog N3

	Before		After 15th		IAfter 1 h		2 nd day	
Hb	47%		-		39%		39%	
Er	4.790		-		3.880		3.110	
fJ			-		0.51			
L	13.800		14.000		8.200		10.000	
Ret.	-	Many leukoph.	-	Many leukoph.	-		-	Many leukoph.
Ret. K.M.	-		-		-			
P	1.0		3.0		6.0	6.0		
S	59.0		57.0		61.0	58.0		
L	28.0		29.0		23.5	26.5		
M	8.0		9.0		8.0	6.0		
E	4.0		2.0		1.0	3.0		
B	-		-		0.5	0.5		



		Before	After 60 h	2 nd day	5 th day	10 th day
Azot	30					
	20					
	10					
Sugar	90					
	80					
	70					
	60					
	50					
	40					
	30					
	20					
	10					
Calcium	9					
	8					
	7					
	6					
	5					
	4					
	3					
	2					
	1					



Hemogram of the Dog N4

	Before	After 15th	After 1h	On 2 nd day	On 5 th day	On 10 th day	On 20 th day
Hb	90%		78%	62%	64%	62%	57%
Hr	5.400		5.20000	5.250000	5.200000	5.000000	4.900000
fJ			-	0.5	0.61	0.6	0.58
L	12.000	10.000	6.000	15.000	15.000	13.000	20.000
Ret.	20%		-				
Ret. KM			-				
P	1.0	2.0	2.0	-	1.0	1.0-1.0	2.0
S	59.0	55.5	67.5	68.0	7.0	78.0	80.0
L	34.0	36.0	24.0	25.0	20.0	13.0	14.0
M	4.0	4.5	3.0	5.0	5.0	4.0	3.0
E	2.0	2.0	4.0	2.0	1.0	2.0	1.0
B	-	-					

No4-a

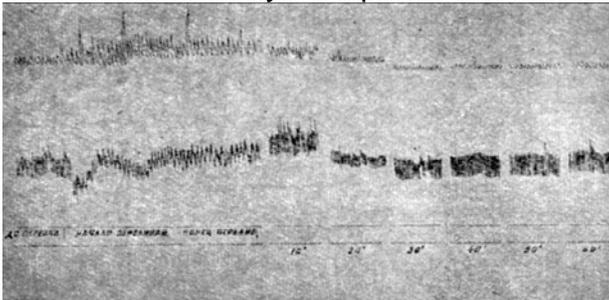
Hemogram of the Dog N5

	Before	After 15th	After 1h	On 2 nd day	On 5 th day	On 10 th day	On 20 th day	On 30 th day
Hb	67%		64%	65%	65%	65%	59%	56%
Er	6.000000		5.420000	5.500000	5.640000	5.600000	5.500000	4.800000
fJ	0.55		0.5	0.5	0.54	0.58	0.53	0.58
Ret								
L	13.000	17.000	12.000	12.500	7.600	8.400	10.200	13.200
P	4.0	6.0	3.0	2.0	0.5	3.0	4.0	6.0
S	70.0	73.0	84.0	82.0	77.5	69.0	70.0	77.0
L	14.0	12.0	9.5	9.0	13.5	23.0	19.0	17.0
M	8.0	7.0	3.0	6.0	7.5	4.0	5.0	3.0
E	4.0	2.0	0.5	1.0	1.0	1.0	2.0	3.0

No5-a

After these experiments were repeated at the Institute of Oncology of the Academy of Sciences of the USSR in Leningrad, in the laboratory of the Academician L.M. Shabada in 1952.

Were tested 20 mice of the line "A", 29 rats, 12 mice with spontaneous tumors of the mammary glands, as well the following strains of the tumors: 1) sarcoma 180 (mice) and 2) sarcoma 45 (rat). Subinoculation of the tumor was performed by the staff-members of the laboratory of experimental oncology.



Kymogram N1

The control and laboratory animals were selected of one sex and age, were placed in the similar conditions of existence (diet, etc.). With the purpose of excluding of the reflectory effect of the preparation injection procedure, injection with needle, to the control animals subcutaneously was injected physiological solution in the quantity equal to the injected preparation Camelyn in the laboratory group.

The preparation Camelyn in the laboratory group, as well as the physiological solution in the control group, was injected on the opposite to the tumor side. The results were considered according to the term of manifestation of the first signs of tumor, change of its size, as well as histomorphological tests.

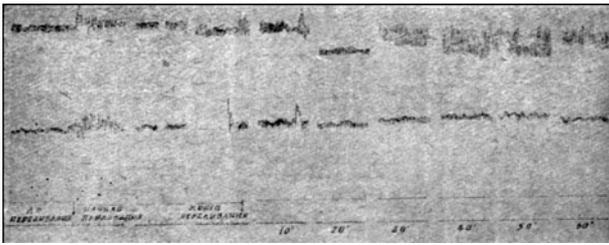
During treatment with Camelyn of the spontaneous tumors of the mammary glands (8 mice), in all the cases reduction of the tumor size was observed after beginning of the treatment. During the following time (2 months) the tumor was reduced sequentially, and in one case it was resolved completely.

At autopsy of the tumor microscopic bruises and tissue necrosis were observed.

Effect of the preparation Camelyn on the rat sarcoma.

The preparation was injected to the mice in 24 and 48 hours after subinoculation of tumor.

In the control group in 8 days after subinoculation of tumor, on injection point well palpable tumor nodes were marked. On the tenth day the tumor was large enough and could be measured easily.



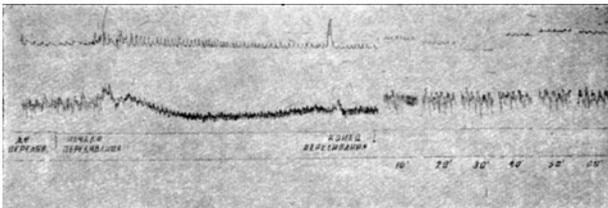
Kymogram N 2.

In the laboratory group a small part of the animals on the 9th day manifested the tumor nod. Growth of the tumor up to the end of the experiment in the given group was suppressed. In part of the animals the tumor due to the insignificant size was not possible to measure.

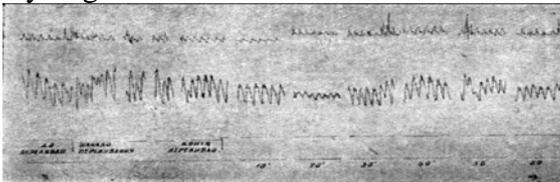
Effect of the preparation Camelyn on the rat sarcoma 45

The preparation was injected in 24 hours after subinoculation of tumor. In 48 hours all the control animals on the point of injection of the tumor material infiltration of the tissue and manifestation of the tumor nod were marked.

In the tested group from 10 animals 3 manifested the occurrence of the tumor nod on the 3rd day after subinoculation. These also disappeared on the 10th day of treatment.



Kymogram N 3

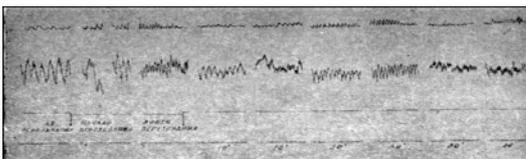


Kymogram N 4

During this time the Commission in the complement of the Institute Director in the Scientific Field A.P. Shanin, Head of the Experimental Oncology Laboratory, the Corresponding Member of the Academy of Sciences of the USSR, prof. L.M. Shabada and the Chairman of the Local Committee E.A. Vognibov was established. The Commission controlled the course of experiments, familiarized with the results, as well as with the preparation related to the previous tests.

On the basis of the control data, the Commission reached the following conclusion:

1. The tested preparations have inhibitory action on the tumor growth. Under the effect of the preparation injection significant reduction of the "spontaneous", as well as other tumors takes place, necrotizing of cells and impregnation with blood of the tumor tissue.



Kymogram N 5

2. The obtained data speak for the necessity of the further experimental studies in this direction and raise a number of issues, solution of which requires a special laboratory environment and complex work of the different specialists.

Conclusion No84-44, March 2, 1953, of the Leningrad Institute of Oncology of the Academy of Sciences of the USSR – Director, the Corresponding Member of the Academy of Sciences of the USSR, prof. A.I. Serebrov, members of the Commission: Deputy Director of the Institute of Oncology of the Academy of Sciences of the USSR in the scientific field, prof. A.P. Shanin, Head of the Laboratory of Experimental Oncology, the Corresponding Member of the Academy of Sciences of the USSR, prof. L.M. Shabada, Chairman of the Local Committee A.A. Bognibov.

Approximately similar results were obtained during testing of Camelyn on the model of the experimental tumor at the Moscow Institute of the Experimental Pathology and Therapy of Tumor. The works here were performed under the direction of the Academician M.M. Maevskij. (Conclusion No 84-568, May 11, 1955, of Institute of the Experimental Pathology and Therapy of Tumor of the Academy of Sciences of the USSR, signed by the Deputy Director in the scientific field, the Corresponding Member of the Academy of Sciences of the USSR, professor M.M. Maevskij).

Having obtained the hopeful results in the experiment, we decided to test the action of the given preparation on the malignant tumors.

CLINICAL OBSERVATIONS

Right after the experimental testing of the preparation Camelyn and testing it for toxicity, we, at the suggestion of the Academician K.D. Eristavi, began to study the therapeutic effect of Camelyn in clinic starting from some surgical diseases and further tested the patients having malignant neoplasm.

Testing of the honey effect at some surgical diseases in 1950 was performed at the Tbilisi State Medical Institute Chair of General Surgery of Pediatric and Sanitary and Hygienic faculties (head – prof. E.B. Todadze and associate professor O.G. Chumburidze).

At aseptic wounds after appendectomy, laparotomy, chronic osteomyelitis, trophic ulcers, festering wounds were obtained the following results:

1. Clean wounds at application of honey (as a smear for the wound surface) heal completely within 72 hours. The scar is normal, healing goes on without local soreness and other unpleasant sensations.

2. At chronic osteomyelitis after the operation the wound was filled with gauze saturated with honey. Pus ceased quickly. The wound defect filled with healthy granulation tissue.

3. At purulent mastitis application of tampons saturated with honey stops the pus. The wound heals after 10 days.

4. At different abscesses their dissection with following introduction of honey stop pus during 24 hours, the wound is healed quickly.

5. Application of honey for treatment of festering wounds facilitates quick cleaning of the wound from pus making possible secondary stitching after 24-48 hours. Such wounds heal with primary tension.

6. Application of honey for the closed purulent cavity causes aggravation of the process, that is why honey should not be applied in such a way.

7. At chronic (trophic) ulcers the therapeutic efficiency of honey is less expressed. We reported about the obtained data on February 2, 1951 at the II scientific session of the Tbilisi State Institute for Advanced Training of Physicians.

We have treated the post-operation wounds of 140 patients at the surgical department of Sagarejo Regional Hospital. We obtained excellent results.

With the purpose of studying the effect of Camelyn during treatment of the patients suffering from malignant tumors, we have selected patients on the III and IV stage of disease, mainly on the terminal stage of deeply lying tumors of internal organs (incurable cases).

For illustration see some case histories, when the patients were treated with the preparation Camelyn.

Patinet A.M.G., 13 years old (case history N 5805) went to hospital for the second time.

Clinical diagnosis: endothelioma in cervical area.

The diagnosis was confirmed by histomorphological tests (Fig. 7).

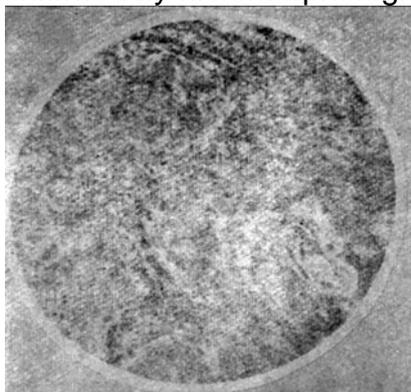


Fig. 7 Endothelioma

The patient had metastasis on the skull, on the left humerus and on the neck of the left femur: was observed frequent bleeding from the nose. At the clinic the patient subjected to the X-ray treatment in the area of femur. The cervical tumor nods increased in volume. The size was of a walnut, consistent, painful, bleeding from the nose was repeated. Condition was very heavy.

17.XI-53 by the imperative request of the parents the patient was discharged.

23.XII-58 the patient applied to us. Condition of the patient was very heavy, complained about pains in the area of breastbone, in the left hip joint, in the left forearm and skull. The eyes were puffy, bleeding from the nose.

Objectively on the neck was marked a multiple tumor, size – a big egg, on the right – flat tumor occupying all the neck area and going down to clavicle. In the forehead there was a large bone tumor not painful upon touch, fixed. Inguinal and axillary nods were increased, running temperature.

23.XII-58 treatment with the preparation Camelyn began. After a week treatment bleeding from the nose ceased, temperature was normal. Tumor on the forehead disappeared. After 36 days of treatment almost all the tumors disappeared. The patient got up, began to walk and play (Figures 8, 9).

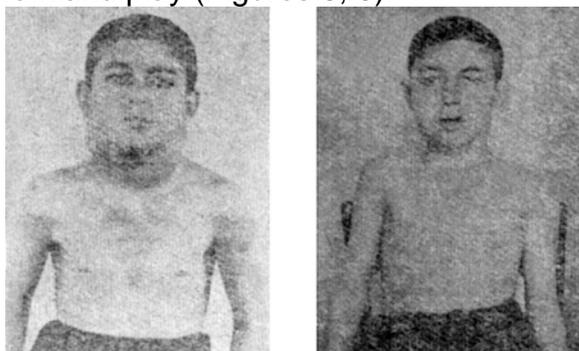


Fig. 8, 9 Tumor of endothelioma before and after treatment

The patient felt well during 7 months . On the eighth month signs of brain-growth were marked and the patient died.

Patient D.N., 41 years old (case history N 222), went to the clinical department of the Institute of Blood Transfusion 21.XII-1957.

Clinical diagnosis: esophagus cancer with metastasis in ileocecal area.

Objectively: upon palpation epigastric area indurate and painful. In the ileocecal area firm growth having a size of an egg was palpable.

Radiography of the stomach (of 26.XII-1957): the contrast medium was detained in the lower part of oesophagus (near diaphragm) and to the following part of oesophagus passed as a thin irregular stream, between branches a clearing was marked. On the medial contour of the given section of oesophagus the defect of filling with uneven edges was seen clearly. The given are of oesophagus did not contract. Changes in stomach and duodenum were not revealed.

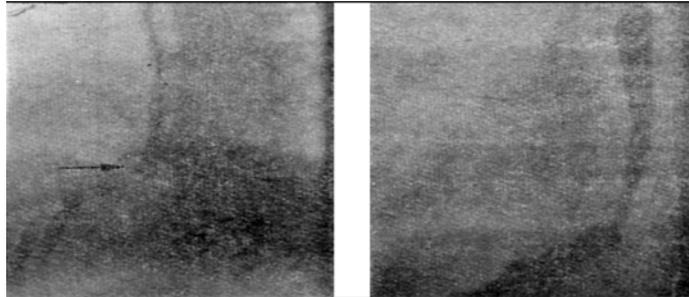


Fig. 10, 11
Cancer of oesophagus before and after treatment

Rontgenologic diagnosis - cancer of the cardial part of oesophagus (Fig. 10).

From 22.I-1958 treatment with Camelyn began – 3,0 three times per day intramuscular injections.

After 44 days of treatment dysphagy was eliminated, the patient began to eat normally, gained weight 4 kg.

Objectively: upon palpation the epigastric area was free, no indurations, in the ileocecal area significant growth was not revealed.

Radiography of stomach (of 17.III-1958): the contrast medium passed freely in oesophagus, defect of filling not marked in the stomach, as well as cardial part of the stomach (Fig. 11).

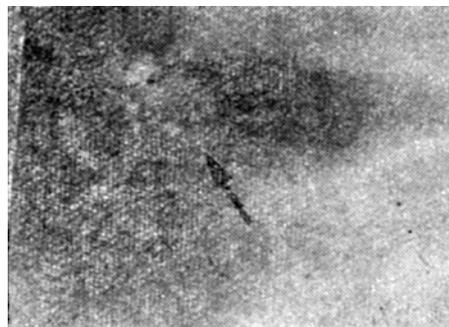


Fig. 12
Recurrent oesophagus cancer after one and a half year. The same case.

The patient was discharged in good condition.

In September of 1959 the patient went to the clinic again with the relapse of cancer in the same part of oesophagus.

X-ray (of 7.X-1959) in the cardinal part showed the defect of filling (Fig. 12).

The patient was treated with Camelyn. Was discharged with improved health.

Resulting from the above described cases, even in such heavy cases treatment with Camelyn improved the condition of the patient. The same results were obtained in the other 25 cases on the terminal stage of disease.

The improvement, mainly, had a subjective character, the pain calmed down or disappeared, the blood formula slightly improved, etc.

Here we should note that during 18 years of work together with the therapeutic application, we tried to improve the technology of the given preparation and intensify its therapeutic properties. And we succeeded to achieve it.

At present the preparation is applied in two forms: 1) solution in ampoules and 2) powder in tablets.

In future together with neglected cases we selected patients for treatment on the earlier stages of malignant tumors. The work was performed under direction of the Academician K.D. Eristavi and prof. A.K. Chargeishvili. The preparation was tested against cancer of different organs.

As a result of long observations we were certain in definite anti-tumor action of Camelyn.

For illustration see the extracts from the respective case histories. In all the cases the diagnosis was proved by rontgenography and histomorphological tests. Histomorphological examination was performed under the consultations of the Academician V.K. Zhghenti.

Patient Kh. S., 43 years old (case history N 7709), was brought to the otolaryngologic department of the Central Republican Hospital on 24.X-1957 by the ambulance with the diagnosis larynx tumor.

Heavy breathing, cyanosis were marked, pulse 120 in a minute. Tracheotomy was performed immediately, as a result of which breathing was recovered.

Was ill during a year. In the past he went to this clinic with the diagnosis larynx tumor.

Histomorphological tests showed squamous cell epithelial cancer with keratinization (Fig. 13).

Serological Wassermann reaction - negative.

Laryngoscopy: sharp edema in the area of arytenoids cartilages, due to which ligaments could not be seen, was found.

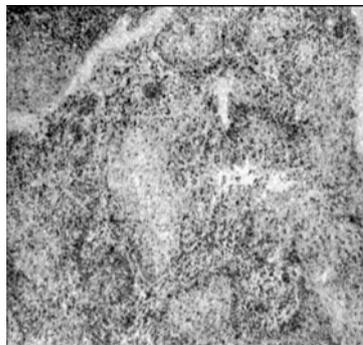


Fig. 13

Squamous cell epithelial cancer with keratinization

From 29.X-1957 we began treatment with the preparation Camelyn.

Laryngoscopy: of 23.Xi-1957 edema of larynx disappeared, glottis open, breathing when closing the opening of the tracheotomy tube – free, left phonatory band colorless. In the front commissure was seen a white tumor growth with ulcer.

Laryngoscopy: in 38 days after treatment – area of arytenoids cartilages is slightly marked, even surface. The left phonatory band is with slight edema, without ulceration, bands are mobile. At phonation move well, cancer was not marked. Breathing free.

Tracheotomy tube was removed, the voice recovered, speech free.

Was discharged from the clinic on the 40th day of treatment (7.XII-1957) in good health.

Patient Z.A., 65 years old (case history N4766), went to the otolaryngologic department of the Central Republican Hospital on 9.VII-1957.

Clinical diagnosis: larynx tumor.

Laryngoscopy: vocal cords were not seen. In the front commissure on the right growth in the form of rhamphoid outgrowth was marked with uneven surface. Biopsy of the growth was performed. By histomorphological tests was determined a squamous cell epithelial cancer without keratinization (Fig. 14).

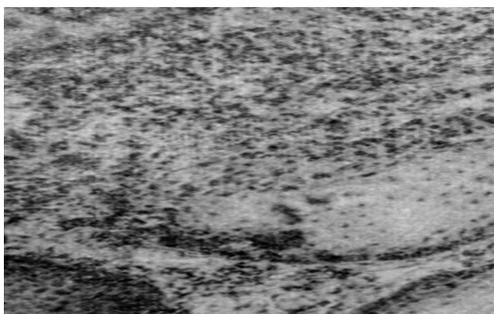


Fig. 14

Squamous cell epithelial cancer without keratinization

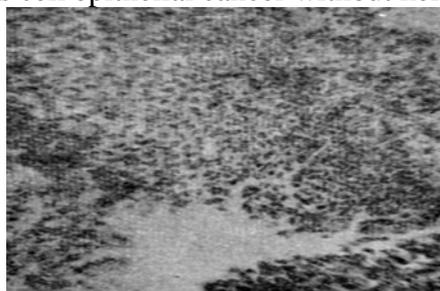


Fig. 15

Squamous cell epithelial cancer with keratinization

Wassermann reaction negative.

On 11.VII-1957 treatment with Camelyn was begun. In 20 days edema of cords disappeared. Left cord is slightly indurate with even surface, movable. Growth on the right cord could not be seen, it was movable. Breathing of the patient free, the voice recovered. Was discharged from the clinic on 1.VIII-1957 in good health.

Patient B., 25 years old (case history N 175), went to the otolaryngologic department of the Central Republican Hospital on 25.V-1958.

Clinical diagnosis: larynx tumor.

Was ill during 2 weeks. Lost voice, when swallowing and talking pains were marked.

Laryngoscopy: both vocal cords with hyperemia and indurate. On the front upper thirds of the left cord tumor growth was marked. Biopsy was performed.

Histomorphologic tests determined squamous cell epithelial cancer without keratinization (Fig. 15).

From 2.VI-1958 treatment with Camelyn began. In 14 days after treatment the pains disappeared, voice recovered.

Laryngoscopy: hyperemia and edema of the vocal cords not marked. In the growth area a light edema was observed. In 24 days after the treatment the growth disappeared.

On 17.VII-1958 the patient was discharged in good health. Feels well till present.

Patient M.F., 58 years old (case history N 7515), went to the otolaryngologic department of the Central Republican Hospital in December 1958.

Clinical diagnosis: larynx tumor.

Histomorphologic diagnosis: squamous cell epithelial cancer without keratinization (Fig. 15).

Was ill during a month. Lost voice, when swallowing and talking sharp pains were marked.

Wassermann reaction negative

Laryngoscopy: both vocal cords are occupied by a growth with irregular form rough surface. Biopsy was performed.

Treatment with antibiotics and radiotherapy – without results.

Treatment with Camelyn began. After first course of treatment the pains disappeared, voice recovered.

Laryngoscopy: on the right a small size growth was marked.

After 4th course of treatment the patient had no complaints, laryngoscopy did not reveal a tumor, was feeling well.

Patient K., 60 years old (case history N 194), went to the otolaryngologic department of the Central Republican Hospital on 8.1-1960.

Clinical diagnosis: larynx tumor.

Was ill during a year. Gradually hoarseness of voice and painfulness when swallowing developed.

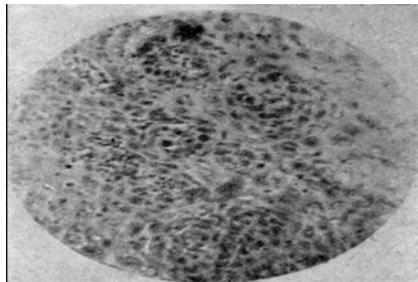


Fig. 16

Squamous cell epithelial cancer with keratinization.

Laryngoscopy of 13.1-1960: left vocal cord fully occupied by a growth with irregular form and rough surface which was distributed subnotochordally. Right vocal cord indurate and hyperemic. In its central part white tumor growth in the size of a grain was marked. Epiglottis and arytenoids cartilages not changed. Voice hoarse. Biopsy was performed.

Histomorphologic diagnosis: squamous cell epithelial cancer without keratinization (Fig. 16).

Wassermann reaction negative

During 16 days the patient was treated with penicillin, novocaine and aerosol. Treatment was without results. From 24.1-1960 treatment with Camelyn began.

Laryngoscopy of 30.1-1960: tumor growth on the left vocal cord became significantly smaller, the right cord hyperemic.

On 18.II-1960 the voice recovered fully. The tumor growth reduced; in the center of the tumor growth white fur was observed.

Laryngoscopy of 13.II-1960: vocal cords became clean, pink color, tumor not registered.

Speech free, no complaints.

On 20.II-1980 the patient was discharged in good health.

Feels well till present.

Patient S.M., 46 years old, went to the otolaryngologic department of the Central Republican Hospital on 10.X-1960.

Diagnosis: larynx tumor.

The patient complained of loosing voice and unpleasant feelings in the larynx during eating. Loosing of voice was marked a month earlier before going to the clinic. He applied to the local physician. Treatment had no effect. He went for recreation to Kislovodsk, where a physician insisted on operation. The patient returned to Tbilisi and went to the clinic.

Laryngoscopy of 10.X-1951: on the right vocal cord was observed the tumor with uneven surface, adjacent tissues with edema, motion of the vocal cords restricted.

By histomorphologic tests of the biopsy material revealed existence of epithelial polypus with growth.

From 10.X-1960 treatment with the preparation Camelyn began – 1 mg 3 times a day.

Laryngoscopy of 30.X: cords were mobile, tumor not marked, no edema. Voice recovered.

Patient feels well, no complaints.

Patient Ts. D., 63 years old (out-patient).

Diagnosis: larynx tumor with metastasis in the left lung. Was ill more than 3 months. The disease began with loosing of voice, pains in larynx. When she went to the clinic the patient complained of general weakness, loosing voice, pains in the right side, heavy breathing, especially in the morning, cough with phlegm.

At double testing of phlegm were found carcinogen cells.

On 12.XII-1963 fluoroscopic and tomographic examination of larynx were performed. During fluoroscopic examination pathologic changes were not revealed, vocal cords mobile.

Tomographic examination (depth of section 3 cm) growth of the left cord was marked (Fig. 17).

Rontgenologic examination of lungs (of 13.XII-1963) showed existence of round formation and homogeneous dark patch (Fig. 18).

Laryngoscopy: in the central part of the left cord edema with the tumor growth having uneven edges was marked.

On the basis of performed tests the diagnosis was: larynx tumor with metastasis in the left lung.

On 13.XII-1963 treatment with Camelyn began 1 ml 3 times a day intramuscular injections.

On 17.XII-1963 condition of the patient improved, breathing became easier, did not cough in the night.

Together with injections Camelyn was prescribed 3 times a day 1 tablet.

On 25.XII-1963 the patient marked that cough became stronger, phlegm increased, heavy breathing (feeling of asphyxia) disappeared, voice improved. Complaints of sweaty neck.

On 15.I-1964 condition of the patient was good.

Did not cough, pains in the side disappeared, voice recovered.

Laryngoscopy: vocal cords were in normal condition, mobile, no pathological changes.

On the roentgenogram of the lung earlier observed tumor was not seen (Fig. 19).

Patient A.L., 43 years old (case history N 5660), went to the hospital on 3.XI-1957. Was ill during 5 months: voice hoarse, pains at swallowing.



Fig. 17.
Larynx tumor with metastasis in the left lung.
Tomogram: section depth 3 cm.

Clinical diagnosis: larynx tumor.

Laryngoscopy: vocal cords were hyperemic and infiltrated. In the front thirds of the left cord round growth of white color was observed, looking like a tumor. On the same cord back part closer to the arytenoids was indurate.

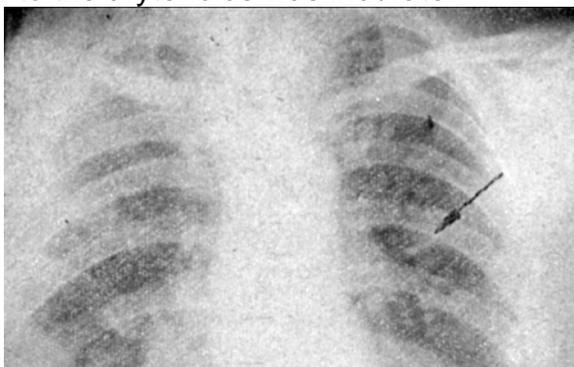


Fig. 18
The same case. Metastasis in the left lung before treatment.



Fig. 19
The same case after treatment.

Biopsy was performed.

The Wassermann reaction – negative.

Treatment with antibiotics was carried out without results.

From 4.IX-1957 began treatment with Camelyn.

Laryngoscopy: after 14 days of treatment – vocal cords were in normal condition, tumor growth on the front part of the left cord were not observed, voice recovered, no complaints.

On 16.X-1957 the patient was discharged in good health. Feels well until now.

Patient D.E., 54 years old (case history N 3544), went to the hospital on 22.IV-1957 with pain in larynx at swallowing and complete losing of voice. Was ill during 5 months. Clinical diagnosis: larynx tumor.

Laringoscopy: mucous of larynx hyperemic, right vocal cord worn down, infiltration was marked. The left cord hyperemic and indurate.

Biopsy in the given case was not performed, Wassermann reaction – negative. Treatment with antibiotics – without results.

From 23.V-1957 began treatment with the preparation Camelyn.

Laringoscopy after 25 days of treatment: both vocal cords were absolutely normal, hypostasis and hyperemia not observed.

On 18.VI-1957 the patient was discharged in good health.

Patient L.Z. (out-patient), went to the went to the otolaryngologic department of the Central Republican Hospital on 5.V-1965.

Diagnosis: larynx tumor.

Histomorphological tests determined - squamous cell cancer with keratinization. Was ill during 3 months, gradually hoarse voice developed.

Laryngoscopy: the right vocal cord hyperemic, and in the back part of the third part the growth with uneven surfaces could be seen. (Biopsy of the tumor was carried out), (Fig. 20).

On 7.V-1965 treatment with the preparation Camelyn began. One and half course of treatment.

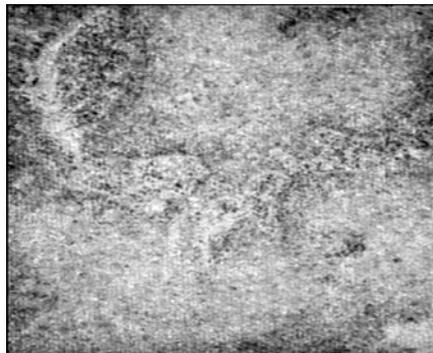


Fig. 20

Squamous cell epithelial cancer with keratinization.

Laryngoscopy: the vocal cords were of pink color, free, mobile, tumor was not marked, speech free, no complaints, felt well.

The patient was consulted by prof. A.V. Chargeishvili and prof. A. Karpov (Leningrad).

Patient A.A., (case history N 2928), went to the otolaryngologic department of the Central Republican Hospital on 29.I-1958.

Clinical diagnosis: oesophagus cancer

Patient complained of acute dysphagia. From November 1957 feeling of the foreign body in the gullet. From January 1953 breathing became heavier. The first treatment with antibiotics – without results. From 20.I asphyxia began due to which the patient went to the clinic.

Oesophagoscopy: at the first constriction of the gullet on the back wall edema was marked extending below 2-3 cm in the form of tumor growth with uneven surface.

X-ray examination: contrast medium passed freely in the gullet, at swallowing action at the beginning of the gullet was seen defect of filling with retaining of the contrast medium for some time.

Serologic Wassermann reaction – negative.

From 31.I-1958 treatment with the preparation Camelyn began. After 22 days of treatment dysphagia disappeared.

The X-ray examination of 21.II-1958: the contrast medium passes freely through the gullet.

Oesophagoscopy: tumor was not observed in the gullet.

On 22.II-1958 the patient was discharged in good health.

After 7 years from treatment the patient feels well.

Patient K.G., 54 years old (case history N 7929), went to the otolaryngologic department of the Central Republican Hospital on 21.Xi-1961.

Diagnosis: oesophagus cancer.

The patient complained of pain in mouth cavity and aglutition. According to the patient temporal aglutition was noted in the past, 2 years ago. After 2 years pains in the mouth cavity began. Was treated with antibiotics, but the pains remained. During the last period pains became sharper by aglutition gradually progressing.

Tuberculosis and venereal diseases in the past were denied.

Serologic reaction of Wassermann – negative. In the past he was subjected to resection of stomach and operation of hernia.

Oesophagoscopy of 27.Xi-1961: impediment on the level of the first constriction of the gullet, edema and ulcer were marked.

On 28.XI complained of pains, temperature 37,8, did not take food due to pains.

Treatment with the preparation Camelyn began.

On 6.XII – began to eat. Treatment with Camelyn was continued.

Oesophagoscopy of 8.XII: in the gullet on the level of the first constriction was marked an infiltration, ulceration of tumor nature, diffusive, especially on the back wall. Biopsy was carried out in three places of tumor growth.

Histomorphological tests determined: fibroangiomatus polyp with inflammation changes and atypical growth of epithelium.

On 10.XII the patient was feeling better, treatment was continued.

On 16.XII the patient was feeling well. Swallowing action was completely free, was eating willingly.

On 20.XII-1961 the patient was discharged in good health.

Patient T.A., 36 years old (case history N3089), went to the otolaryngologic department of the Central Republican Hospital on 23.IV-1963.

Clinical diagnosis: oesophagus cancer.

During last months complained of aglutition, sharp pains in the upper cavity of gullet during swallowing.

Was eating only with liquid food. Was treated with antibiotics without results.

Oesophagoscopy of 25.IV: on the level of the first constriction the gullet walls were indurate. Degeneration was marked here and there. Injured place was bleeding.

Roentgenogram: the contrast medium was stopped for some time on the level of VI cervical vertebra, then passed freely. On the level of IV-V-VI cervical vertebrae from the right side defect of filling of the uneven surface was observed; at the given area movement of the contrast medium was stopped for some time.

Diagnosis: oesophagus cancer

New roentgenogram of May 16, 1963 the same picture was seen.

From April 26 treatment with Camelyn began. After 20 days the patient had no pain, taking of food became easier. In a month after beginning of treatment there were no complain, pains not marked, eats normally.

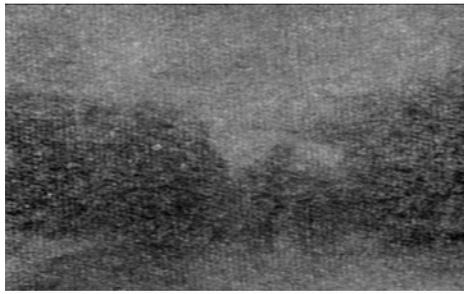


Fig. 21

Oesophagus cancer before treatment.

On the level of IV-V-VI cervical vertebrae from the right side the defect of filling was marked.



Fig. 22

The same case after treatment.

Oesophagoscopy: no changes in the gullet. Roentgenogram: no changes in the whole gullet (Fig. 22).

The patient recovered.

Patient K.A., 48 years old (case history N 2594) went to the otolaryngologic department of the Tbilisi Institute for Advance Training of Physicians on 12.III-1954.

Clinical diagnosis: purulent inflammation of the left middle ear and polyp.

On 15.III-1954 the operation polypectomy was performed.

On 20.III-1954 X-ray examination of mastoids was performed, as a result was revealed that the cancer occupied all the cell part on the left of mastoid.

The patient refused the radical operation. On the 15th day from polypectomy the wound was opened, and secondary tumor formed therein.



Fig. 23

Cancer of upper and lower jaws.

Condition of the patient became worse, dizziness, headache, nausea began.

Treatment with the preparation Camelyn began. After 15 days of treatment tumor growth in the wound disappeared, headache, dizziness and nausea ceased.

After 40 days of treatment the patient recovered.

Patient Kh.I., 60 years old (out-patient) applied to us with the complaints of tumor growth on the right jaw and submaxillary cavity. Was ill during 5 years, at first noted tumorous growth under the skin of upper jaw that was growing gradually and reached big size (Fig. 23).

In November 1961 went to the Tbilisi Scientific-Research Institute of Oncology. On 28.XI-1961 she was operated – tumor was ablated. Pathomorphological examination of tumor determined the carcinoma (Fig. 24).

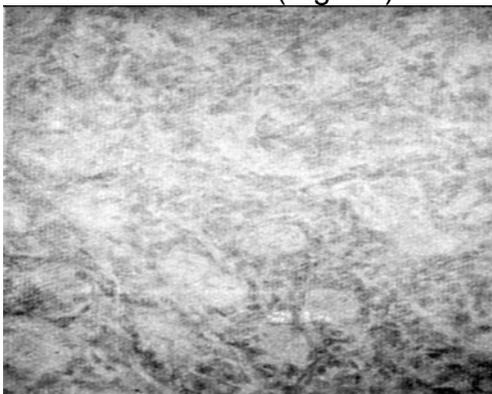


Fig. 24
Carcinoma

In a month after the operation relapse was noted. The patient went to the Institute Oncology once more. X-ray therapy was proposed, the patient refused.

Objectively: on the upper right jaw a scar could be seen with a tumor of solid consistence in the middle. On the same side under the lower jaw quite large tumor (as an egg), firm and fixed, was marked.

From 28.XII-1961 treatment with Camelyn was prescribed, 1.0 two times a day, intramuscular injection.

After a week of treatment the tumor on the upper jaw was reduced significantly, tumor under the lower jaw disappeared. The patient continued treatment.

After a month the tumor on the upper jaw disappeared. The patient recovered.

Patient G.I., 65 years old (case history N263) went to the II therapeutic department of the Central Republican Hospital on 12.I-1955.



Fig. 25
Lung cancer before treatment.

On the right up to the forth rib dark patch may be seen.

Clinical diagnosis: lung cancer.

The disease developed sharply, with fevers, high temperature (up to 39-40° C), shooting-pains in the right side. Was treated at home with antibiotics. Condition grew worth. Began to cough with phlegm. Before going to clinic on 4.I-1955 the roentgenogram was taken. On the right up to the forth rib dark patch was seen, more intense homogenous dark patch was seen between the first and third ribs, with a little light interval.

Diagnosis: lung cancer.

Cytological examination of phlegm of 7.I-1955: in native preparation was marked existence of atypical epithelial cells layers and crystals of Sharko-Leiden.

Blood picture: hemoglobin – 54%, erythrocytes – 4.500.000., color index – 0,6, leukocytes – 5, 500 cubic mm. of blood, ESR – 22 mm during an hour. Wassermann reaction – negative.

Repeated analysis of phlegm: quantity 60 ml, mucopurulent character.

Microscopically: leukocytes – 3-4 in visual field, pneumococcus absent. Atypical cells and crystals of Sharko-Leiden were marked.

X-ray examination of thorax: under the right clavicle homogenous shadow with irregular form was marked which was not restricted and gradually proceeds to the lung tissue (Fig. 26).

In the clinic the patient was treated with antibiotics, but without results.

On the control roentgenogram was seen an intense shadow began from the bronchus and ingrew in the lung tissue (Fig. 27).

On 19.I-1955 the patient was discharged as an incurable case.

From 22.II-1955 treatment with the preparation Camelyn began. After 10 days of treatment condition of the patient improved, cough and pains disappeared, temperature normalized. After 46 days of treatment the patient's health was in good condition, no complaints.

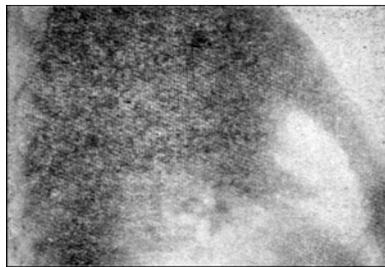


Fig. 26

The same case. Lateral roentgenogram was taken side, before treatment.

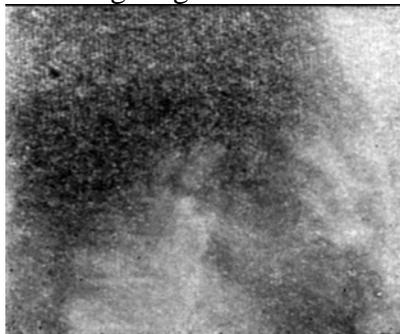


Fig. 27

The same case before treatment. Lateral roentgenogram was made after 10 days from taking the first. The tumor has grown in volume. X-ray of 18.III-1955: tumor in the lungs not marked.

After 6 years from the treatment the patient was still feeling well.

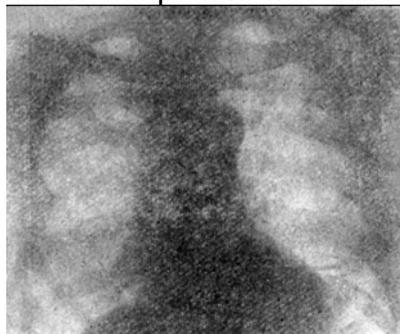


Fig. 28

The same case after treatment. Tumor not marked.

Patient B.G., 67 years old (out-patient), applied to us on May 24, 1963.

Diagnosis: cancer of the right lung.

Was ill during a month. Temperature increased suddenly up to 38-39°, cough with high admixture of blood in the phlegm. Was treated with antibiotics, without results.

On 19.IV-1963 X-ray examination radioscopy and tomography was performed.

Conclusion: on the right between the II and I ribs irregular form restricted shadow could be seen, on the lateral roentgenogram had an oval form and was situated in the middle of the lung. On tomographies higher the mentioned shadow could be seen in all the sections, especially in the depth of 8 cm, in the form of not restricted intense dark patch, size about 5X7 cm. The picture had an impression of the peripheral cancer of the right lung.

The patient was advised to undergo operation and was sent to the surgical clinic of the II City Hospital. Here the diagnosis of the lung cancer was proved by the respective clinical, laboratory and X-ray examination. The patient decided to be operated in Leningrad.

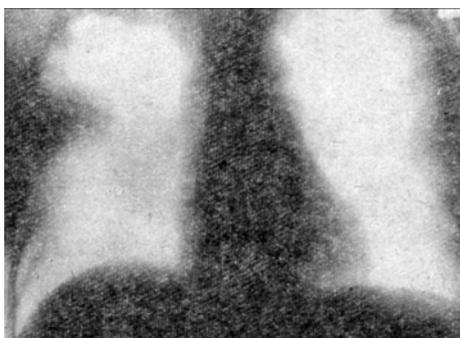


Fig. 29

Lung cancer, tomogram before treatment.
Depth 12 cm. Tumor can be seen.

On 24.V the patient applied to us in grave condition, complaints of general weakness, high temperature, violent cough with excretions of phlegm and blood.

Treatment with the preparation Camelyn was prescribed 1,0 3 times a day, intramuscular injections and Camelyn in tablets 3 times a day perorally.

After 15 days of treatment the temperature was normalized, cough became seldom, phlegm did not contain blood.

After a month the patient recovered.



Fig. 30

The same case after treatment. Tomogram – depth 12 cm.
Tumor not seen.

Patient K.O., 82 years (out-patient), applied to us on 29.IV-1963.

Diagnosis: right lung cancer.

Disease began with high temperature – 38-39°, heavy breathing, anhelation, cough with phlegm excretion, acute pains in the right side.

Condition of the patient was grave.

Roentgenogram of 29.IV (Fig. 35).

Was treated with antibiotics during one and a half month (streptomycin, penicillin, auromicin) at home. Condition became worth.

On 29.IV began treatment with the preparation Camelyn. After 12 days of treatment condition of the patient improved, cough and pains disappeared, temperature within norm.

After two courses of treatment the patient felt himself healthy, the control roentgenogram was taken – lung cancer was not observed (Fig. 36).

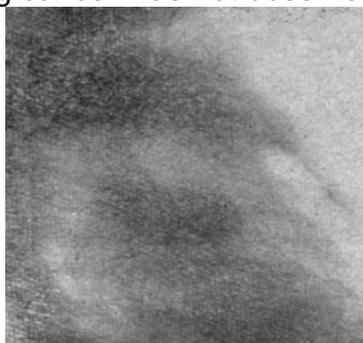


Fig. 31

The same case

Lateral roentgenogram.

Intense dark patch is seen, size about 5X7 cm before treatment.

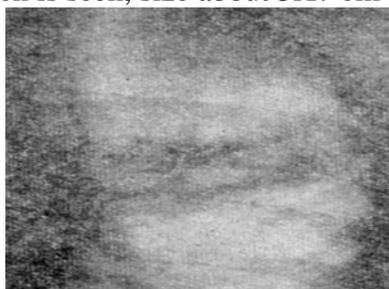


Fig. 32

The same case

Laterla roentgenogram after treatment.

The patient recovered.

Patient V.G., 14 months old, was received in 4.XI-1961.

Diagnosis: sarcoma on the parietal lobe.

According to the parents after birth of the child tumorous growth under the right ear was observed. It began to grow gradually, reached the size of a big orange. In November 1960 the tumor was ablated in the Regional Hospital of Samtredia.



Fig. 33

Roentgenogram before treatment.

The same case.

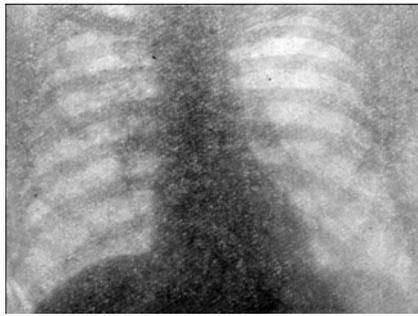


Fig. 34
Roentgenogram after 3 months of treatment.
Cancer not seen



Fig. 35
Cancer of right lung.
Before treatment the cancer is seen



Fig. 36
The same case. After treatment.
The tumor not observed.

Histomorphological analysis determined the diagnosis of sarcoma.

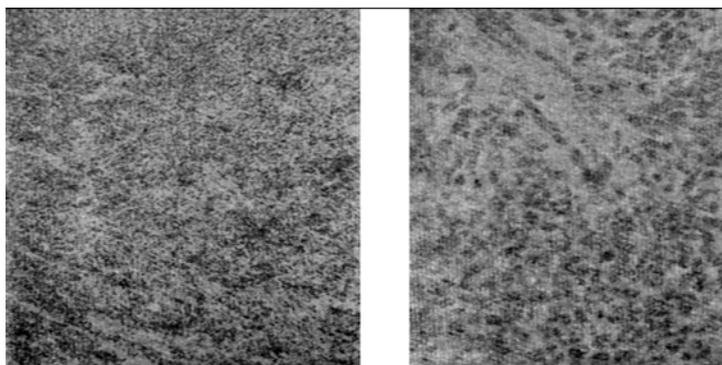


Fig. 37, 38
Fusocellular sarcoma.

After some time following the operation on the place of the operative wound tumor grew once again, in 4 months reached the same size. In February 1961 the patient was operated in the City Hospital of Kutaisi. In a week after the operation hardly above the operative wound the tumor began to grow again. During 6 months it reached a very big size, i.e. 12 cm in the diameter.

On 3.VIII-1961 the patient went to the Tbilisi Institute of Oncology (case history N 12851).

On the roentgenogram of 12.VIII-1961 – on the left lobe of hindhead defect of the skull was marked 3X% cm.

On 13.VIII-1961 the child was operated for the third time (surgeon prof. Vepkhvadze).

Histomorphologic analysis for the third time proved the fusocellular sarcoma (fig. 37, 38, 39).

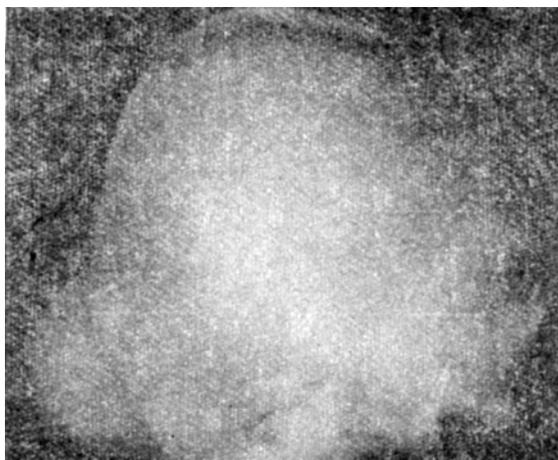


Fig. 39
Sarcoma of the right parietal lobe.

After the operation the tumor began to grow again.

On 31.VIII-1961 the patient was discharged from the Institute of Oncology with presence of tumor.

Thus, the tumor began to grow for the fourth time. After two months from the last operation the tumor reached a significant size.

On 17.X-1961 the child went to the Institute of Oncology again (case history N 1786), the tumor reached 6 cm in the diameter (Fig. 40).

On 24.X-1961 the patient was operated for the fourth time (surgeon prof. Vepkhvadze).

From the 6 day after operation the tumor began to grow again.

On 1.XI-1961 the child was discharged from the clinic.

According to the parent the tumor grew every day in volume.

On 4.XI-1961 the child was brought to us.

Objectively: on the parietal part of head the child had several scars – results of operations. On the right parietal lobe at the lower angle of the operation scar a tumor conglomerate of a significant size and solid consistence was marked. The child was pale, ill-nourished, did not eat and walk. The patient was consulted by Academician K.D. Eristavi.



Fig. 40

The same case.

Defect of the skull before treatment.

On 4.XI-1961 treatment with the preparation Camelyn began by 0,2 (in powder) diluted in a small quantity of milk 3 times per day.

On 9.XI-1961 general condition of the child was significantly better.

Tumor on the parietal lobe reduced in volume; the child became more lively, gained weight, face color – normal, began to walk.

On 15.XI-1961 the child was feeling well, tumor not marked, slept well, gained weight.

On 19.Xi-1961 the child recovered. Treatment with Camelyn was continued at home.

On 29.XII-1961 the child was brought for consultation. Condition was very good, the child grew, ate well. Tumor not marked. At home repeatedly was treated during 20 days with Camelyn.

On 9.III-1962 a control roentgenogram of the skull was taken, pathological changes not marked (Fig. 41, 42).

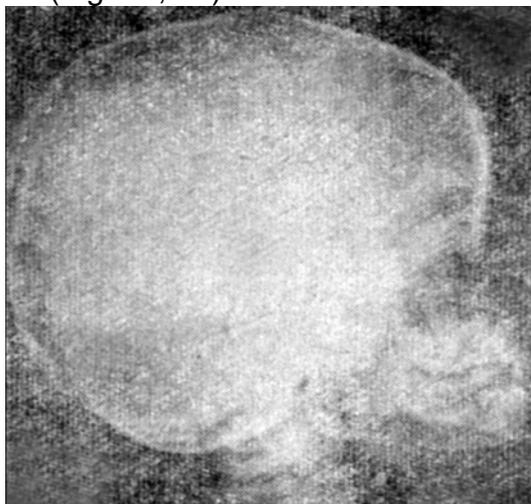


Fig. 41

The same case after treatment



Fig. 42
The patient after 5 years.

The child feels well till present.

The patient was demonstrated at the plenum of the Scientific Council of the Health Ministry of the GSSR on May 28, 1962.

Patient K.B., 42 years old (out-patient) applied to us due to the presence of sacral part tumor.

Clinical diagnosis: sarcoma.

Diagnosis was proved by the histomorphological analysis of the tumor (Fig. 43).

Was ill during 2 years. During the period was operated 6 times. At first went to the hospital in Gori in September of 1959, tumor was ablated, size – as an egg.



Fig. 43
Sarcoma

Relapse followed in several months after operation.

In January 1960 was operated again in the oncology dispenser (surgeon G.M. Mindadze).

Again relapse. In July 1960 was operated for the third time at the Institute of Oncology (surgeon G. Bilanishvili).

In a month after operation the tumor grew again.

In March 1961 was operated for the fourth time (surgeon Alkhazishvili). Again relapse. In March 1962 – the fifth operation. From the fourth day the tumor relapsed again. She was operated for the sixth time (the last two operations were performed by prof. K.F. Velkhvadze).

The wound did not heal. Began pains, in the operation wound appeared multiple fungal tumor nodules sizes beginning from a pod to walnut.

In this condition, operated 6 times, the patient applied to us. The operation wound was filled with tumorous nodules (Fig. 44, 45, 46, 47, 48).

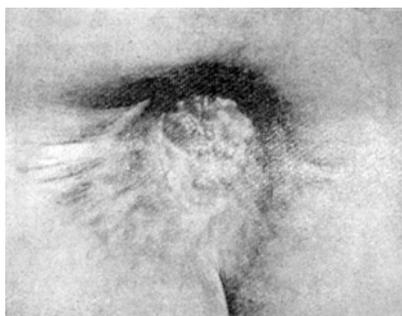


Fig. 44
Sarcoma of sacral part before treatment

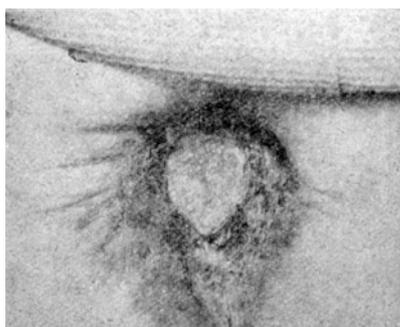


Fig. 45
The same case after the first course of treatment.



Fig. 46
The same case after the second course of treatment.



Fig. 47
The same case after the third course of treatment.

The patient complained of local pains. A roentgenogram of the sacral bone was taken (fig. 49, 50, 51, 51). Treatment with the preparation Camelyn began. After 25 days of treatment the tumorous nodules in the wound disappeared. The treatment during 5 months healed the operative wound. The tumor was not marked.

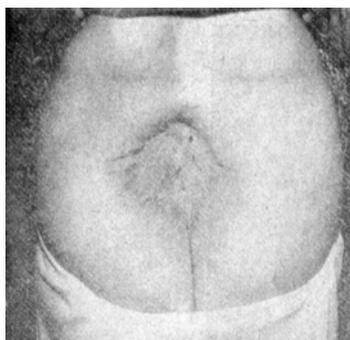


Fig. 48

The same case after the final treatment.

The patient recovered.

Patient G.B., 12 years old (out-patient), applied to us on 14.V-1963.

Clinical diagnosis: sarcoma of the left femur.

Histomorphological analysis: fibrosarcoma (Fig. 54).

Was ill during 3 months. In the lower thirds of the left femur on the back large tumor was formed, due to which on 12.II-1963 she was operated in the oncology dispenser – excision of tumor.

After 2 months the tumor relapsed on the previous place.

Parent took her for treatment to the Leningrad Institute of oncology, where the diagnosis was proved – fibrosarcoma of the soft tissue of the left femur.

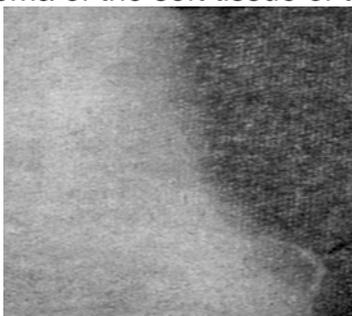


Fig. 49

The same case. Sarcoma of sacral part. Lateral roentgenogram before treatment.

Tumor shadow is seen.

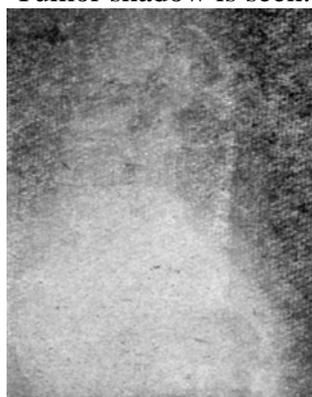


Fig. 50

The same case

Lateral roentgenogram after treatment.

In Leningrad the physicians proposed amputation of the femur. The parent did not agree and brought the patient back to Tbilisi.

On 14.V-1963 the patient was brought to us with complaints of pains in the left femur. Objectively: on the back surface of the left femur post-operation scar was marked and at the same place large tumor fixed and painful at palpation.

From 14.V-1963 treatment with the preparation Camelyn was prescribed. After 25 days of treatment the tumor disappeared, no complaints.

Patient Ch. A., 60 years old, as a hopeless case was transported from the Roentgen-Radiology Institute (case history N 5909) home in a very grave condition.

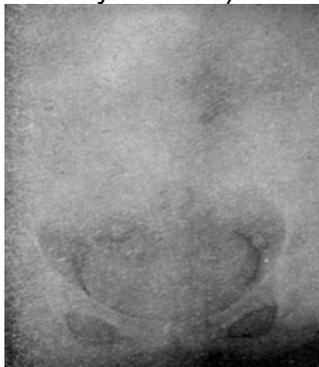


Fig. 51

The same case. Sarcoma of the sacral part. Roentgenogram defect of the sacral part before treatment.



Fig. 52

The same case after treatment.

The first diagnosis: lymphogranulomatosis, aplastic anemia, diabetes mellitus.

Was ill from 25.V-1961. The disease began with the high temperature, rigor. After 7 days for examination went to the Institute of Trophic Diseases. During a month the diagnosis was not made. After a month lymphogranulomatosis was suspected. The patient was consulted by prof. G. Maruashvili, prof. L. Anjaparidze, G. Mkheidze, T. Mekhueli and I. Zedgenidze. The roentgenogram of lungs did not show changes (Fig. 55).

Puncture of the lymphatic gland was performed.

Punctate was studied at the Roentgen-Radiology Institute and at the Institute of Blood Transfusion.



Fig. 53

Sarcoma of sacral part. 2 years and 8 months have passed after treatment.
The patient gained 40 kg weight.

Diagnosis: reticulosarcoma, the second diagnosis lymphohranulomatosis (consultant Academician B.K. Zhghenti).

Condition of the patient became worth. I.VIII she was transported to the Roentgen-Radiology Institute for treatment. But due to worsening of the blood picture radiotherapy was not carried out. Antianemica and hormone therapy did not show expected results. For 25.VIII-1961 hemoglobin dropped to 18%, erythrocytes – to 800.000 in cubic mm of blood. ESR reached 90 ml in an hour.

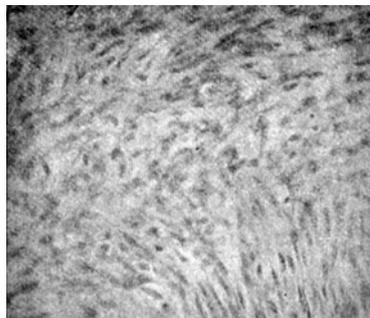


Fig. 54

Fibrosarcoma of femur from the left.

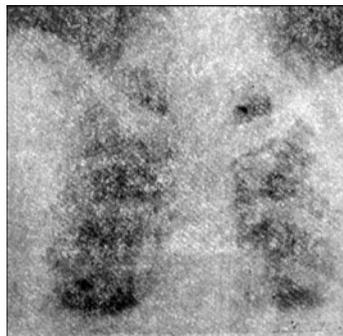


Fig. 55

Roentgenogram
No changes in lungs.

Fluoroscopically 2.IX-1961 the lung picture is increased from both sides. On the right from the III rib was marked an inhomogeneous dark patch of average intensity. Contours of heart and diaphragm not seen (fig. 56, 57, 58).



Fig. 56

The same case. Roentgenogram of lungs of 2.VIII-1961.
Dark patch seen in the right lung.

Analysis of the punctate of marrow showed aplastic condition.

In punctate of cervical lymphatic gland on the background erythrocytes a large quantity of immature giant cells of lymphoreticular type were marked.

Acute cardiac failure and stagnation in lungs began. Constant oxygen feeding and cardiac preparations supported the patient. On 9.IX-1961 she was discharged in a heavy condition.

On 22.IX-1981 the patient applied to us with complaints of air insufficiency, heavy breathing, noise in ears, worsening of eyesight, general weakness, absence of appetite, vigilance, pains in perineum and many unpleasant sensations.

From the same day treatment with the preparation Camelyn began, all the other prescriptions were annulled.

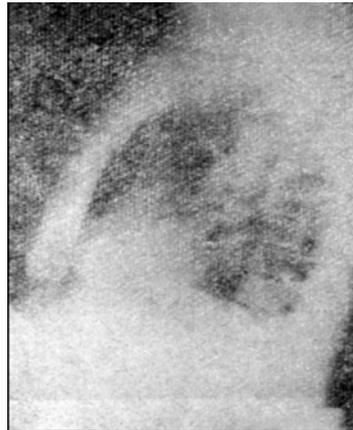


Fig. 57

Roentgenogram of lungs of 2.VIII-1961. Lateral.

After a week treatment general condition of the patient improved, she became more mobile, noise in the ears reduced, heart condition improved, heavy breathing and pains weakened. Hemoglobin – 22%. Indurate infiltrations on the left shoulder and both buttocks (as a result of earlier injections) began to reduce.

Z.Kh. had to dissect the infiltrate on the left shoulder, 10.X on the right buttock, 25.X – on the left buttock. From the wounds a large quantity of pus was removed. The wound was washed with 10% solution of Camelyn and left the wetted in the preparation tampon in the wound. After several days of dressing the pus disappeared, after which the wound was treated with the natural honey. Wounds on the shoulder and the right buttock healed. On the left a phlegmon was formed. As the wound was insufficiently wide, it was opened again, purulent bags were opened and tampon wetted in the preparation placed therein.

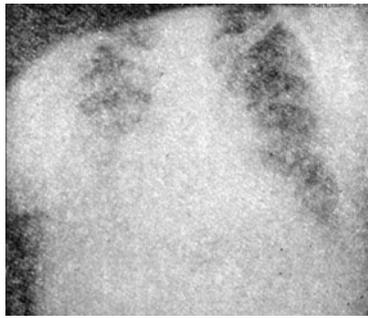


Fig. 58

The same case before treatment. Dark patch is seen on the right.

Camelyn was injected 3 times a day in femur muscles and perorally 0,5 (Camelyn in tablets three times per day).

As a result of 30 days treatment she began to recover quickly, the blood picture improved.

In December the wounds were healed finally, the patient got up, no complaints.

The injections were terminated, the preparation was taken only in powder. In such a way the patient was treated three and a half months more.

On 10.II-1962 a control roentgenogram of the lung was taken. No pathologic changes (Fig. 59).

On 8.I-1962 the treatment was abandoned. Condition of the patient was good, she recovered.

Patient M.A., 51 years old (out-patient).

Clinical diagnosis: carcinoma of stomach.

Histopathomorphological diagnosis: sarcoma.

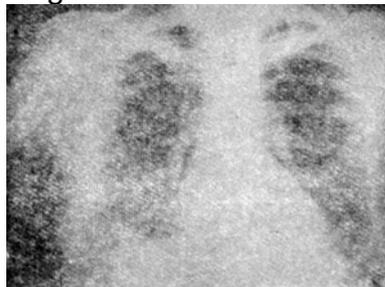


Fig. 59

The same case. Roentgenogram was taken after treatment. Dark patch not marked.

From October 1961 the patient was at the Kutaisi City Hospital, where laparotomy was made. During the operation on the lesser curvature of the stomach was revealed a large tumor, with uneven bumpy surface, indurate, fixed, adnated with pancreas. As the case was recognized non-operable the tumor was not ablated, the wound was sewed. The patient was discharged from the clinic.

On June 12, 1962 the patient applied to us. Complaints: general weakness, emesis, constipation and pains in stomach.

Objectively: above the funis along the white line there was a scar. At palpation in the epigastric area a fixed indurate painful tumor was marked (consultant Academician K.D. Eristavi).

Treatment with the preparation Camelyn began 0,1 intramuscular injections, 3 times per day, together with the ferum preparations. 4 courses of treatment were performed. Condition of the patient was gradually improved, pains disappeared, emesis ceased, gained weight, stomach function normalized.

At palpation: existing before treatment in epigastric area tumor was not marked, until 1964 felt well.

On December 12 roentgenogram was taken (Fig. 60).

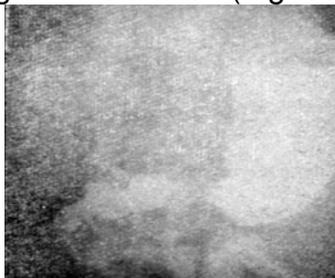


Fig. 60

Carcinoma of stomach. Reticuloblastoma. Roentgenogram of stomach. Defect is seen.

In February 1964 the patient felt pains in the stomach.

The operation was repeated. On 5.III-1964 in Kutaisi laparotomy was made again. Stomach appeared to be concretions, on the lesser curvature tumor 6X6 cm, indurate.

This time resection of stomach was possible.

Histomorphological analysis of tumor determined sarcoma.

After the operation the patient was treated again for prevention with the preparation Camelyn.

The patient recovered.

Patient B.S., 33 years old (case history N 751), was brought to the hospital by an ambulance on 15.V-1964.

Clinical diagnosis: tumor of right crus.

Histomorphological analysis: fibrosarcoma (Fig. 61).

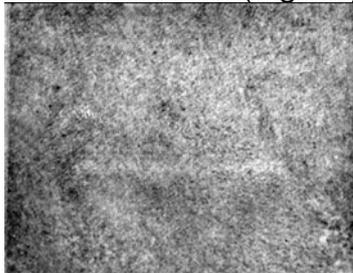


Fig. 61

Fibrosarcoma.

The patient complained of pains in the right crus. 10 years ago he got trauma on the right crus, after which on the place of trauma a small tumor was grown, at that time it had a size of a big orange.

Objectively: a large tumor on the right crus, size of an orange, soft consistence, mobile.

Roentgenography of 16.V-1964 – in the middle of the right crus in soft tissues a round irregular form induration was marked. No changes in bones.

On 19.V-1964 the tumor was ablated.

The histomorphological analysis the diagnosis was determined: fibrosarcoma.

On 29.V the patient was discharged in a good condition.

In a month after the operation condition of the patient became worse, the tumor grew again.

On 9.VI the patient applied to us.

Objectively: on the right medial surface of the crus a post-operational scar was noted, size 12X13 cm, at the lower end of the scar was determined a tumor 3X4 cm, indurate consistence. On the right upper part of femur a tumor (metastasis) 4X5 could

be palpated. In the both inguen parts, especially on the right, there were multiple metastasis, size of a bean and corn grain. Complained of pains, temperature 37,5-38°.

Treatment with the preparation Camelyn began.

After the first course of treatment in the crus the tumor was dispersed. In the middle third part of femur the tumor reduced in volume, and in the inguen part most of the tumorous nods disappeared.

After the second course of treatment the tumor was not palpable. The patient was feeling well.

Patient R.N., 25 years old (case history N 644) went to the surgical department of the 7th City Hospital on 29.III-1962.

Diagnosis: colon cancer.

Histomorphological diagnosis: adenocarcinoma (Fig. 62).

The patient complained of pains in stomach, general weakness, had lost weight, high temperature.

Objectively: skin pale, in the left part of abdomen indurate tumor was palpable, size a man's fist.

In the clinic obstruction was developed. On April 22, 1963 laparotomy was performed (surgeon Kadagidze). Under general anesthesia the abdominal cavity was opened, incision along the white line. In the abdominal cavity was found a tumor, size of a man's fist, commissured to the front wall of abdomen. The tumor extended from the liver fold of colon. It was adnated with small intestine, colon, omentum, from behind – with the inferior pole of kidney, ureter and vessels of pelvis.

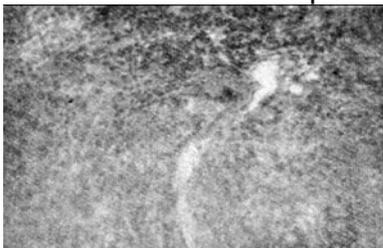


Fig. 62
Adenocarcinoma

Obstruction was caused by luminal narrowing of colon by tumor. It was decided to create gastroenterostomy between the ileum and colon. The gastroenterostomy was imposed by three-story suture between the left part of colon and the inferior loop of ileum distance being 15 cm from the cecum. Ablation of the tumor was not possible. Biopsy was performed.

On 22.VI-1962 the patient was discharged from the clinic in the grave condition.

On 23.VI-1962 the patient applied to us with complaints of high temperature (38-39°), pains in the right part of abdomen, emesis, due to which could not take food, constipation, malnutrition – lost 15 kg of weight.

Objectively: general cachexia, on the abdomen along the white line from the xiphoid cartilage up to navel and on the right in parallel with costal margin of the middle axillary line a scar was marked. Along the scar in four places there were fistulas with plentiful pus.

By palpation: the abdomen was bloating, in the right part of abdomen from the epigastric side a tumor was palpated, size of a child's head, indurate consistence. At turning to the side the patient felt moving of the tumor accompanied by pains.

The right side of abdomen was deformed, bloating, the tumor was touchable.

On 23.VI-1962 treatment with the preparation Camelyn began 1,0 2 times per day, during 6 days and 3 times a day later on.

On 30.VI-1962 the patient's condition was improved, pains disappeared, emesis stopped, temperature was normalized.

On 26.VII-1962 after a month treatment the general condition of the patient was satisfactory, no complaints, tumor reduced to a size of an egg. Pus from the operative wound was marked in two places. Gained 7 kg of weight. Treatment was continued.

After three months treatment the patient recovered.

By palpation: the abdomen was soft, tumor was not touched. The patient had no complaints, gained 15 kg of weight. Felt herself absolutely healthy.

On 10.XII the patient was examined repeatedly. She felt herself well, in total gained 20 kg of weight, was pregnant (IVth month of pregnancy).

The patient was consulted by Academician K.D. Eristavi, prof. Tortladze, Ustiashvili and Bakradze. It was decided to remove the fetus. The patient went to the Gynecological Clinic of the Professor Ustiashvili. Previously was treated with the preparation Camelyn during 5 days, then the abortion was performed.

She was discharged from the clinic in good health. 15 days preventive course with Camelyn was conducted.

The patient recovered.

Here the following patients should be noted, which were treated with the preparation Camelyn at IVth and IIIrd surgical departments and Ist urological department of the Central Republican Hospital under the direction of prof. E.B. Todadze. The treatment was performed with Camelyn in pure form, as well as in combination with the surgical intervention.

Patient P.A., 71 years old (case history N 8939), went to the IIIrd surgical department on 29.XII-1961 with the diagnosis: colon cancer. The patient was in a heavy condition with complaints of acute pains in the right part of abdomen and general weakness. Was ill during 3 months. From the very beginning marked pains in abdomen that gradually became sharper. He went to the District Hospital (Lanchkhuti), where laparotomy was performed on 12.XII-1961. At opening of the abdominal cavity multiple tumor of colon was found with large conglomerates on the right. The tumor was not ablated, the wound was sewed. After healing of the wound the patient in a grave condition went to the forth surgical department.

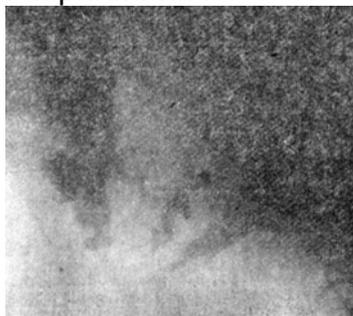


Fig. 63

Defect of filling in ascending colon and liver fold
(roentgenogram before treatment).

Objectively: in the right part of abdomen at profound, as well as superficial palpation a tumor was touched, size of goose egg, indurate consistence, painful.

Diagnosis: colon cancer.

On 30.XII treatment with the preparation Camelyn was prescribed, 2,0 3 times per day intramuscular injections.

Fluoroscopy of 4.I-1962: age-related changes of heart and lungs. Stomack had a hook-shaped form, the relief of mucous membrane was normal, evacuation was accelerated; configuration and curve of duodenum in the range of norm.

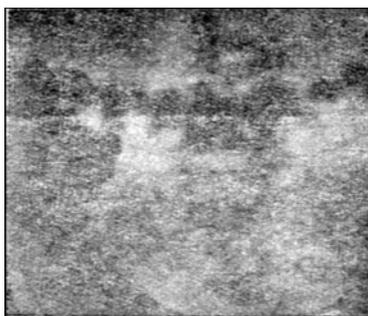


Fig. 64

Roentgenogram. The same case after treatment.

After 24 hours the contrast medium was in the large intestine, in ascending colon and liver fold defect of filling was not marked (Fig. 63).

On 6.I-1962 condition of the patient was satisfactory, non-periodic pains in ileocecal area, tumor palpable.

After 15 days of treatment condition of the patient was satisfactory; general weakness was marked, no pains, the tumor had reduced.

On 13.I-1962 was discharged from the clinic in good condition. Treatment was continued at home.

In 40 days after treatment the patient felt himself healthy, had no complaints, the tumor was not palpable. On the control roentgenogram tumor was not seen (Fig. 64).

The patient recovered.

Patient B.E., 52 years old (case history N7872) went to the third surgical department of the Central Republican Hospital on 2.X-1963 with complaints in the stomach and worsening of general condition. The clinical examination determined a stomach ulcer, the laparotomy was performed. During the operation was found an ulcerated tumor of stomach with the stomach wall infiltration extending to glandular system. Vast resection was made.

Morphological diagnosis: solid carcinoma.

After the operation treatment with the preparation Camelyn was performed, one course. Was discharged in good condition. Further three courses of treatment were performed. The patient recovered.

Patient Ts.D., 70 years old (case history N2325), went to the third surgical department of the Central Republican Hospital on 25.III-1963 with complaints of tumor growth in the right part of the abdominal cavity. Was ill during 8 months, in the beginning had aching pain and feeling of weight in the abdomen.

Clinical diagnosis: tumor of the ascending part of large intestine (according radiography – defect of filling).

Operation – ablation of tumor with application of ileocolostomy.

Histopathological diagnosis: carcinoma.

The patient was prepared for operation by application of the preparation Camelyn.

After the operation treatment was performed. Was discharged from the hospital on 20.IV-1963. Three courses of treatment were taken. After control a good condition of the patient was determined.

Patient M.Sh., 48 years old (case history N7239), went to the hospital on 8.X-1963 with complaints of pains in lumbar region and hematuria.

Was ill during several months. Clinical examinations determined the diagnosis – renal tumors.

Was performed an operation – nephrectomy.

Pathomorphological diagnosis: malignant hypernephroma.

After the operation the patient was treated with the preparation Camelyn, one course in the clinic, then three more courses.

In November, 1965 the patient was called for control, it appeared that she had recovered.

Patient S.U., (case history N8008), went to the Central Republican Hospital, third surgical department on 1.XI-1962 with complaints of pains in the region of the right kidney and hematuria. Was ill from 1930. He was treated against stones in kidneys at different urological departments of the city.

Went to the clinic with severe azotemia (rest nitrogen 100 md %), ESR – 85% and H – 35%). Changes in urine: clinically determined – ureteral stone on the right, with absence of function and hematuria on the left. The operation was performed – removal of the stone from the right ureter, after which course of the operation was very heavy with azotemia and intractable hematuria on the left. For vital index was made the left side lumbotomy, large hypernephroma was found against which nephrectomy was made.

Pathomorphological diagnosis: malignant hypernephroma. After operation the condition was very grave, treatment with Camelyn began. The condition of the patient gradually began to improve and after 142 days of treatment he was discharged on 4.III-1960 in good health. At home he performed three courses of treatment with this preparation.

He recovered.

Patient Kh.K., 39 years old (case history N9070), went to the 1st urological department of the Central Republican Hospital on 19.VII-1963.

Clinical examinations determined: seminoma of the right testicle. Pathomorphological diagnosis: seminoma. After the operation was treated with the preparation Camelyn, 1 course in the clinic. Was discharged from the clinic on 2.I-1964 in good health. At home he took two 2 courses of treatment. After 2 years according to the control – the patient had recovered.

Patient Sh.M., (case history N 7743), went to the hospital on 14.XI-1961 at the 1st urological department of the Central Republican Hospital.

Diagnosis: relapsing carcinoma of the urinary bladder.

The patient was brought by the ambulance due to hematuria. In 1956 the patient was treated in our clinic with the diagnosis polyps of the urinary bladder. The disease began with frequent urinations and periodic hematuria. By respective X-ray and laboratory analysis was determined – polyp of the urinary bladder.

On 12.IV-1965 the patient was operated. Inspection of the urinary bladder revealed 5 different sized polyps. Electrocoagulation was carried out. Dissected polyps were tested histomorphologically. Histological analysis determined carcinoma of the urinary bladder (Fig. 65, 66, 67).

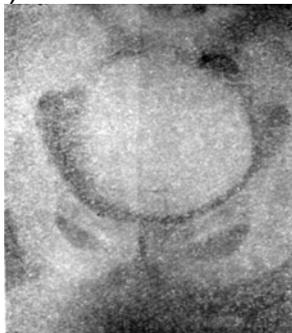


Fig. 65

Cystogram, carcinoma of the urinary bladder before operation.

In 5 years after the operation hematuria began, he was hospitalized immediately. At hospitalization obstructed frequent urination with admixture of blood and aching pains were noted in the region of the urinary bladder.

According to the laboratory analysis in the urine was marked an alkaline reaction, albuminuria, leukocyturia, large quantity of erythrocytes.

On 16.XI cystoscopy was performed: bladder capacity 100,0. Multiple tumor growth were marked therein, of relatively big size on the left wall of the bladder. The cystography was carried out: on the base of the bladder hardly on the left a defect of filling was marked (Fig. 68).

A radical operation was proposed. The patient refused categorically.

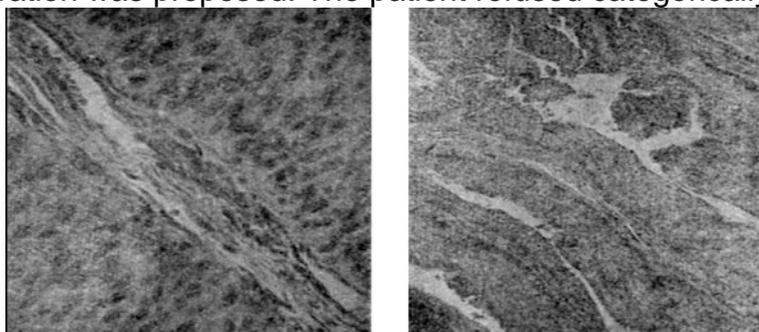


Fig. 66, 67.

Carcinoma of the urinary bladder.

From 23.XI under the consultations of prof. E. Todadze treatment with the preparation Camelyn N1 was begun 1,0 3 times per day intramuscular injections.

From 26.Xi condition of the patient was satisfactory, urination free, in the night got up three times, pains in the urinary bladder region disappeared.

On 28.XII after 30 days of treatment the patients had no complaints, hematuria not marked, urination free, capacity normal.

After one weak break the patient received a second course of treatment outpatient.

From February 24, 1962 the patient returned to its customary work. Was feeling well.

Cystography: defect of filling in the urinary bladder not seen (Fig. 60).

Patient K.K. (case history N 1025, 180), was hospitalized at the 1st surgical department of the 2nd City Hospital on 22.II-1957 due to hematuria.

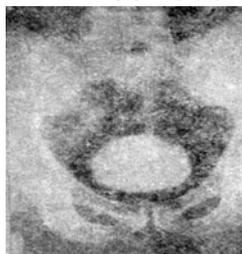


Fig. 68

Cystogram.

Carcinoma of the urinary bladder (relapse). On the base of the bladder, hardly on the left defect of the filling is seen.

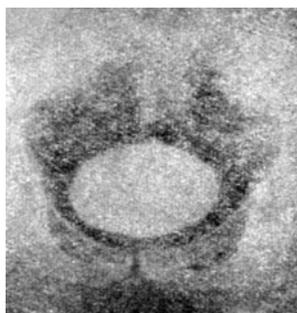


Fig. 69
Cystogram.

The same case after treatment, defect not seen.

Diagnosis: carcinoma of the urinary bladder.

At hospitalization complained of urine retention and blood in urine. Was ill during 5 years, for the last time urination with blood began. Was treated outpatient, but without results, further was hospitalized. Complaints of disorder of urination, frequent urine with blood. Analysis per rectum: prostate gland increased.

Cystoscopy of 1.III-1957: inflammatory changes in the urinary bladder, on the back wall papillomatous tumor, size larger than a walnut. Consulted by prof. Todadze, who confirmed the diagnosis – carcinoma of the urinary bladder.

After preliminary preparations on 5.III-1957 the patient was operated.

Pathomorphologic analysis determined the carcinoma of the urinary bladder.

On 3.IV-1957 frequent urination with blood began repeatedly.

Cystoscopy: tumor growth on the back wall.

The patient refused the operation.

From 15.IV-1957 treatment with the preparation Camelyn began, 3 times per day 0,1 intramuscular injections and 0,5 perorally.

In a week after beginning of the treatment hematuria stopped, urination became seldom and the patient gained weight. After 40 days treatment the patient recovered. He had no complaints, physically able to work, felt well.

Patient M.M., 26 years old (case history N 8133), went to the 1st urological department of the Central Republican Hospital on 13.XII-1963.

Clinical diagnosis: carcinoma of the urinary bladder.

Duration of the disease 4 months. The disease began with hematuria. Last 7 days before hospitalization, the patient noted complicated, frequent urination with pains, urination 15-20 times a day, for the last time marked retention of urine.

Cystoscopy: on mucous of the urinary bladder polypous growth shape of cluster. Capacity of the bladder small.

On cystogram – small size bladder with serrated edges (Fig. 70).

In urine – respective pathological changes.

In the blood leukocytosis was revealed about 13.000 in 1 cubic mm, ESR – 15 mm in an hour.

From 20.XII-1963 treatment with the preparation Camelyn was prescribed in solution and tablets.

On the third day of treatment the patient together with the urine released a large quantity of flocks. Urinary sediment was subjected to the cystologic analysis. Large quantity of decayed cell elements was marked.

On the 10th day of treatment urination became normal, the patient gained 3 kg of weight.

Cystoscopy: earlier observed tumor growth were not found. Capacity of the bladder normal.

Cystogram was normal (Fig. 71).

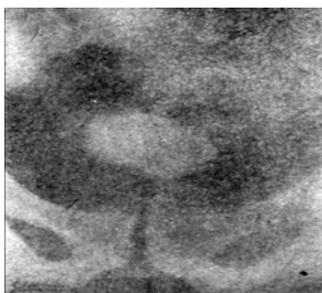


Fig. 70

Cystogram. Carcinoma of urinary bladder.
Small size bladder with serrated edge (before treatment).

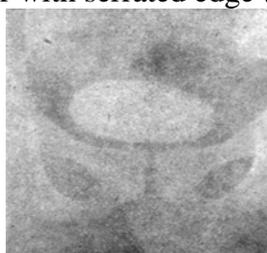


Fig. 71

Cystogram. The same case after treatment.
The blood picture, as well as urine, was normalized.

The patient was discharged recovered on 9.I-1964.

Patient B.N., 50 years old (case history N 7764), was brought to the 1st urological department of the Central Republican Hospital by ambulance on 28.X-1963, with hematuria.

Clinical diagnosis: carcinoma of the urinary bladder.

Was ill during a month. Complaints of the frequent painful urination with blood.

Cystoscopy: near the neck of urinary bladder quite big tumor growth, shape of a cluster, was marked. Due to the heavy condition, cystogram was not carried out.

On 30.X-1963 treatment with the preparation Camelyn began.

As a result of treatment hematuria stopped, urination was normalized. Gained 3 g of weight.

He was discharged with an improved health. Further treatment with Camelyn was performed at home. After the full course of treatment the patient recovered clinically.

Cystogram – was in norm.

Patient I.I., 23 years old (case history N 9177) went to the clinic on 23.XII-1963 with complaints of frequent painful urination. Was ill during 3 months. Disease began with complicated urination, frequent vesical tenesmus and hematuria. Was treated at the regional hospital, without results.

Three days earlier before hospitalization relapse of hematuria was marked. According to respective clinical, laboratory and X-ray examination was determined – carcinoma of the urinary bladder. The patient was consulted by prof. Todadze.

Cystoscopy: near the ureter in the lower part a tumor growth of cluster shape was marked. The other part of the urinary bladder was in normal condition.

Cystogram: on the projection of the urinary bladder at the base on the left a defect of filling was marked (Fig. 72).

From 17.I-1964 treatment with the preparation Camelyn began.

From the third day urination became less frequent, in a week – urination was in norm.

On 6.II-1964 on the cystogram the defect of filling was not marked (Fig. 73).

Had no complaints, urination 3 times a day, no night tenesmus. The patient was discharged in good health, gained 2,5 kg of weight. The second course of treatment with Camelyn was carried out at home.

The patient recovered.

Patient B.E., 65 years old (case history N 868), on 8.II-1964 went to the 1st urological department of the Central Republican Hospital.

Clinical diagnosis: carcinoma of the urinary bladder.

Duration of the disease one year. Complaints of frequent painful urination.

In August, 1963 due to prostatic hypertrophy the patient was operated. After the operation the patient had dysuric developments. After 6 months applied to us.

Cystoscopy: on the left on the wall of the urinary bladder there was a tumor (consultant prof. E.B. Todadze).

Treatment with the preparation Camelyn began. After two courses of treatment the patient on 2.IV-1964 was discharged in good condition. He recovered.

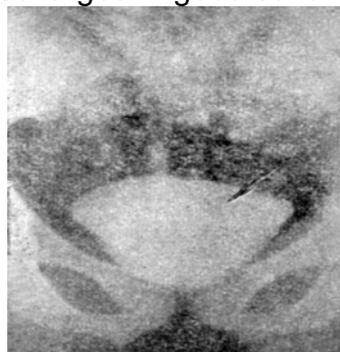


Fig. 72

Cystogram. Carcinoma of urinary bladder (before treatment).
At the base of the urinary bladder on the left a defect of filling is seen.



Fig. 73

The same case after treatment.

Patient O.I., 65 years old (case history N 4038), went to the 1st urological department of the Central Republican Hospital on %.VI-1964.

Clinical examinations revealed carcinoma of the urinary bladder. Dysuria was developed, as well as pathological changes in urine.

Cystography: defect of filling on the left on the wall of the urinary bladder.

Treatment with the preparation Camelyn was carried out.

On 10.VI he was discharged. After two courses of treatment at home the patient felt healthy. He recovered.

Patient Ts.N. (case history N 3678), 1st urological department of the Central Republican Hospital on 16.V-1963.

Clinical diagnosis: relapsing carcinoma of the urinary bladder.

In 1961 the patient was hospitalized due to the carcinoma of the urinary bladder.

Was operated – electrocoagulation of tumor.

Histomorphological analysis: carcinoma of the urinary bladder.

For the second time was hospitalized due to hematuria and dysuria. Was treated with the preparation Camelyn.

Was discharged on .VI-1963 in good condition.

The patient recovered.

Patient D.I., 60 years old (case history N 6701), went to the 1st urological department of the Central Republican Hospital on 7.Xi-1961 with frequent painful urination and acute pains in the region of hip joint.

Diagnosis: carcinoma of prostate gland, metastasis on the right ischial bone.

Was ill during a year. Was treated at the regional hospital, after which the patient condition was improved. During last time due to the pains in the region of hip joint took several bathes in the health resort Tskaltubo, but without results.

At hospitalization increase of the prostate gland was marked, the right lobe was very indurate and painful.

Roentgenogram: In the right ischial bone were marked destructive changes as a result of tumor metastasis.

From 12.X treatment with the preparation Camelyn began 4,0 3 times a day intramuscular injections.

After several days pains in the hip joint became weaker, urination easier, the patient began to recover.

After 10 days pains in the hip joint almost disappeared, urination not painful, free. Tumor of the prostate gland became smaller. On the roentgenogram on the side of the ischial bone an improvement was marked.

The patient was discharged in an improved condition. At home two more courses of treatment with Camelyn were continued.

Objectively: tumor of the prostate gland not marked, impossible to palpate the prostate, impression as if the prostate gland was ablated. On the control roentgenogram of the bone prevailing recovery processes were marked (Fig. 74, 75, 76).



Fig. 74

Carcinoma of the prostate gland.

Metastasis on the right ischial bone before treatment.

The patient recovered.

Patinet G.S., 34 years old (case history N5957, 8163), was hospitalized twice (1st urological department of the Central Republican Hospital).

On 16.VIII-1963 went to the 1st urological department of the Central Republican Hospital due to complicated, frequent urination with pains, was ill during a month.

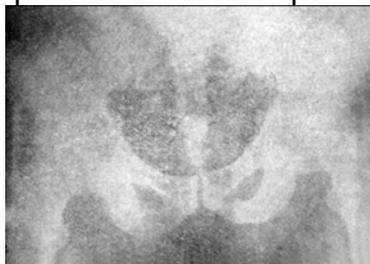


Fig. 75

The same patient after 2 months treatment.



Fig. 76

The same patient after 4 months treatment.

Clinical diagnosis: carcinoma of the prostate gland.

At examination: the prostate gland was significantly increased, indurate consistence.

On 20.VIII the patient was operated – cystostomy with release of urine.

From 5.IX-1963 treatment with the preparation Camelyn began. After one course of treatment the patient was discharged from the clinic with a rubber drainage in the urinary bladder.

According to the patient after 15 days of treatment urination was normalized, gained 10 kg of weight.

On 14.XI-1963 the patient applied to the clinic, at this time he was in a good condition for removal of the rubber drainage.

The patient was repeatedly consulted by prof. E. Todadze, during examination per rectum the tumor was not found, the prostate gland was of normal size. Catheter was removed and the fistula was sewn.

The patient was discharged on 26.XI-1963 recovered.

Patient M.S., 29 years old (case history N 4359/261) went to the IInd therapeutic department of the 1st city hospital on 2.III-1961 in a heavy condition.

Diagnosis at hospitalization: peritonitis and ascites. Final diagnosis: ovarian carcinoma, metastasis in the right pleura, ascites (inoperable condition). Was ill from August 1960.

Complaints: aching pains in abdomen, especially on the left, enlargement of abdomen, rigors, high temperature and sweating, general weakness, absence of appetite.

Clinical, X-ray and laboratory examination: ovarian carcinoma.

On 8.III-1961 paracentesis was performed. From the abdominal cavity yellowish color liquid in the quantity of 6 liters was withdrawn. In punctate atypical cells were not found. Specific weight – 1018; protein contents – 0,6%.

After removal of the liquid according to the gynecological examination (prof. Ustiashvili, assistant Kurtskhalia) existence of tumor, size of a child's head, was marked, tumor was of indurate consistence matted with uterus, adjacent organs and hip bones, tumor was fixed and had uneven surface.

Diagnosis: left ovarian carcinoma (inoperable).

The blood picture showed anemia; leukocytosis, acceleration of ESR.

Condition of the patient became gradually worse and worse. In the right pleural cavity liquid was conglomerated. On the roentgenogram on the right of II rib the homogeneous shadow was seen. At auscultatory percussion in the upper portion pleural friction rub was heard. At puncture obtaining of the pleural liquid was not possible.

In such a grave condition the patient was discharged from the clinic as hopeless, with the diagnosis: inoperable left ovarian carcinoma with metastasis in the right pleura and ascites.

On 5.IV-1961 the patient applied to us.

Condition was very grave, expression of the face senseless, answers to the questions delayed, skin pale, lips cyanotic, heavy breathing, temperature 38-39°, abdomen enlarged significantly, pulse 120 strikes per minute, weak filling, tongue dark red, did not eat, nausea, acute pains in the lower part of abdomen and under the right side, in the lower region.

Patient was consulted by prof. Vepkhvadze, prof. Shotadze at home according the decision of which the condition was extremely heavy.

From 5.IV-1961 treatment with the preparation Camelyn began 1,0 three times per day, intramuscular injections.

From 8.IV-1961 condition of the patient began to improve. Temperature was gradually normalized, pains disappeared, abdomen became smaller, free breathing, urination in large quantities, sweating was marked, began to eat.

Together with injections, preparation was given perorally.

On 14.IV-1961 condition of the patient was satisfactory, no complaints, was feeling general weakness.

Blood analysis of 18.IV-1961: hemoglobin – 37%, erythrocytes – 2,210,000, color index – 0,84, leukocytes – 6.500, ESR – 34 mm during an hour, reticulocytes – 80, thrombocytes – 71%. In leukocyte formula: myelocytes – 2%, young -1%, stab – 14,5%, monocytes – 10,5%, eosinophils – 4,5%, plasma cells 1:200 leukocytes. In the protoplasm of neutrophils a toxic granulosity was marked.

After a month treatment the patient had no complaints. Temperature was normal, abdomen – in normal limits, no pains, color – normal. Blood picture in the normal limits.

The patient got up and was feeling well.

X-ray examination and radiography of the chest: no pathological changes in heart and lungs.

The patient recovered.

The patient was demonstrated twice before the Scientific Council of the Ministry of Health of the USSR and twice before the plenum of the Scientific Council of the Ministry of Health of Georgia.

Patient A.S., 48 years old, applied to us on 7.II-1962.

Clinical diagnosis: carcinoma of uterine cervix..

Histomorphological diagnosis: adenocarcinoma (Fig. 77).



Fig. 77
Carcinoma of uterine cervix.

Before applying to us she was treated in the gynecological department of the 1st city hospital, where the diagnosis was made after clinical and histomorphological tests

obtained by biopsy of the tumor material. Operation was proposed. She refused and was discharged from the clinic.

On 7.II-1962 the patient complained of general weakness, profuse blood discharge from vagina, at examination with finger on uterus neck tumor was found, size of a walnut; indurate consistence, uneven surface, painful at touch, bleeding. Uterus neck displaced inward.

Treatment with the preparation Camelyn was prescribed 1, 0 three times per day, intramuscular injections.

After 25 days of treatment condition of the patient improved, blood discharge stopped, weakness disappeared, the patient got up, tumor on uterus neck became smaller, was not painful and bleeding.

The second course of treatment was performed, after which the patient was feeling well, no complaints.

At examination with a finger: tumor not found, neck was free, mobile, not painful.

Additional 15 days of treatment was performed.

The patient recovered.

CONCLUSION

The above patients were demonstrated before the plenum of the Scientific Council, Ministry of Health of the Georgian SR for the first time on May 21, 1961, part of them before the sessions of the Scientific Council and repeatedly – on October 30, 1963 before the session of surgical, urological, oncology and otolaryngological societies of Georgia.

It should be noted, that all the patients, with the exception of some – with larynx tumor, had far gone forms of disease. Most of them had tumor relapse (after the operation), whereas some were operated many times in the past, one of them – 6 times.

In spite of the grave condition of patients, terminal stage of the disease, treatment with Camelyn appeared to be efficient. The patients were observed during the period beginning from a year to 7 years after treatment.

Among 43 patients under observation relapse was marked among 4: at carcinoma of the urinary bladder (case histories N 7743, 1020 and 180) in 4 years after treatment the patient was hospitalized with a relapse, after which he died. The second – in 7 years after treatment went to the IInd urological department of the Central Republican Hospital in October – after the operation was discharged in good condition. The third, suffering from sarcoma of femur, in 2 years after treatment had a relapse. At present he is being treated with Camelyn. The forth patient suffering from carcinoma of the prostate gland with metastasis of ischial bone and urine retention, following to the 5 year of treatment went to the 1st urological department of the Central Republican Hospital. The operation cystostomia was carried out, at opening of the urinary bladder a large size stone was found. The patient was discharged from the clinic in good condition.

Of course, the described cases of recovery constitute only a small part of patients with far gone forms of malignant growths treated with our preparation. In most cases, success was not achieved. But it should be noted, that almost in 100% of cases was obtained an effect in the form of improvement of general condition, temperature reduction, disappearance of pains, nausea, improvement of blood picture, reduction of tumor sizes, in separate cases resorption of metastasis, prolongation of life.

Action of the preparation on tumors of different morphology (carcinoma, sarcoma) in the new cases of disease was almost similar. For example, if the carcinoma of larynx is new and tumor relatively small, it is resolved fully after 7-10 days, voice

recovered. Sometimes large tumors are resolved fully that, of course, improves general condition of the patient. In separate cases, carcinoma resolve only partially, in others – fully, even in the existence of larger tumors. Such cases are not many, but they are still marked. At lymphosarcoma, for example, when the patient was operated 6 times, after each operation the tumor was relapsed in one and a half, two months. After the 6th operation the patient began administering of the preparation Camelyn. During the first course of treatment the tumor was resolved. Four years passed, the patient is healthy. There are no signs of relapse. The other patient (case history N 1285) suffering from sarcoma of parietal lobe with the defect of skull bone, was operated four times. After each operation the tumor grew again. During the first course of treatment, defect of the skull bone was restored. At present the patient is healthy; after the treatment five years have passed.

Effect of the preparation Camelyn on tumors of different organs is diverse: it has an especially good effect on the tumor of mucous membrane.

In the cases of larynx tumors action of the preparation is most efficient after the preliminary biopsy – the tumor resolves quickly; apparently, the preparation Camelyn has an impact on the organism, strengthening its reactive regeneration processes (during the first 10-15 days). During this period the tumor gradually becomes smaller and during the following period it is resolved. At the repeated trauma of the tumor, the action of the preparation is again intensified (prof. A.K. Chargeishvili).

The same action has the preparation on esophageal cancer. In fresh cases of the disease dysphagia disappears quickly.

The preparation has a most effective action on tumors of gastrointestinal tract. In one case laparotomy was carried out, but it was not possible to ablate the tumor, as it was large, extending to peritoneum and mesentery. Treatment of the patient with the preparation Camelyn was decided. As a result of long-term treatment (5 courses during a year) the patient recovered, gained weight, the tumor reduced in volume, became mobile, enabling to perform repeated laparotomy, this time the tumor was ablated. The patient is feeling well, 2 years have passed after the operation.

The preparation is efficient during treatment of the patients suffering from lung carcinoma. In the fresh cases of disease after the first course of treatment, the temperature becomes normal, suffocation, pains disappear, by X-ray examination defect of lungs is not revealed.

Generally, at existence of the lung carcinomas during the first 15 days of treatment coughing becomes more intense, discharge of bloody sputum increases, after 3-4 days the blood disappears, from 10-15 day discharge of sputum and cough stops, condition of patients is improved. The treatment is efficient in the far gone cases of disease, but X-ray picture changes less or is not changed.

Action of the preparation is most efficient in the cases of the urinary bladder carcinoma. Yet during the first days of treatment improvement is marked, dysuria, hematuria disappear, condition of the patient begins to improve quickly. In the fresh cases of disease one course of treatment is sufficient, without the following preventive course.

The issue of action mechanism of the preparation Camelyn, of course, is very complex, as we have to deal with the preparation prepared from such a substance with such a complex organic and inorganic content, as honey. Among the known to us preparations, already during dozens of years applied in practice, not all of them have been disclosed from the point of view of action mechanism. In this regard our attention was attracted by a circumstance: Zilberg, Grinstein and Raff studied enzymology of tumors.

With respect to the study of tumor ferments, the attention was focused on change of contents and activity of enzymes in different tissues of tumorous organism.

Especially many studies were dedicated to the changes of liver catalase. Tests showed that immediately after introduction of tumor cells meal, liver catalase activity reduction is observed; in the beginning of tumor development catalase activity is somewhat intensified, further its – significant reduction (Grinstein, 1951; Begg, 1951; Adams, 1950). Begg connects this phenomenon with changes in the function of adrenal glands, the other authors – with inflow of "toxic hormones" to tumor (Fukuoka and Nakahara). This toxic hormone causes as well stimulation of adrenal glands function, atrophy of thymus (Adams, 1952).

All the tumors with intense growth cause in animals significant reduction of active catalase of liver and kidneys, whereas, activity of this ferment in erythrocytes remains without changes (Grinstein, 1951). Ablation of the tumor is accompanied with rehabilitation of catalase activity. This reduction of liver and kidneys catalase activity, apparently, is connected with reduction of formation of this enzyme. The same results were obtained by the clinic of prof. A.K. Chargeishvili (1957); before operation among the patient suffering from larynx cancer the catalase activity was reduced, and after operation it was restored.

As to the changes of lipid metabolism, the tumor tissue, according to Roffo (1934-1939), contains a cholesterol quantity, exceeding three times its content in all the tissues. In tumorous organism quantity of cholesterol is increased in adrenal glands, as well as blood. Roffo pointed to the effect of cholesterol received with food on tumor growth and considered that cholesterol in food may play a definite role in etiology of the human cancer. According to the author there is no tumor that would contain cholesterol more than the respective normal tissue. Roffo considered that if the normal skin contains 0,26% of cholesterol (dry weight), on the initial pre-tumor stage the skin contains 0.992% of cholesterol, in the pre-carcinoma condition – 4,944%, and the tissue of malignant tumor – from 3 to 9%. The author suggests that accumulation of cholesterol in pre-carcinoma and carcinoma cells is a result of disbolism not in the tumor cell itself, but in the whole organism. Increase of the blood cholesterol in the age of 40-50-60 Roffo considers as a factor of predisposition towards tumor. Finally, he paid attention to changes of ration between the cholesterol and phosphatids (the so-called lipoma coefficient), between the cholesterol and fatty acids (lypocyte coefficient). Lypocyte (coefficient in tumor and liver of tumorous organism is increased in comparison with the normal tissues (norm for liver – 7,41, at tumor – 10,82. for tumor itself – 27,40). According to Roffo is also lipemia coefficient (sometimes 10 times) in the tumorous tissue, as well as other tissues of organism – carriers of tumor.

Number of experimental data confirm the role of cholesterol. Robertson, Braibsford and Burnet in 1913 showed that repeated injections of cholesterol in the carcinoma tissue accelerates the tumor growth and increases the number of metastasis. Injection of lecithin has an opposite effect. Roffo was able to inhibit the tumor growth, excluding cholesterol from the food of the experimental animals.

Brancatti, 1912, described the accelerated development of implanted, as well as pitch tumors, at introduction of excess cholesterol. I.M. Peisakhovich showed that introduction in the tumorous animals of the excess quantities of cholesterol results in increase of average weight and growth tendency of the tumor. The author connects this phenomenon with suppression of reticuloendothelial system. Similar data were obtained as well by Eber, Klinke, Wacker and others.

Bierich, 1937, presents interesting data illustrating the link between content of cholesterol in tumor and degree of malignancy of blastoma. If all the neoplasm by containment of cholesterol are divided into 4 groups (the first group – content up to 150, the second – from 150 to 250, the third – from 250 to 350 and the fourth above 350 mg % of cholesterol) and compare the longevity of life of operated patients with tumor included in these group, it will be revealed that patients tumor of which is included in the

first group, during the 5 years after operation are all alive; from patients of the second group tumor 47% were alive during 5 years after operation, third – 12%, fourth – all died during 3 years, 80% - even during the first year after operation. Bierich concluded that cholesterol is connected with the so-called malignancy of tumor (R.E. Kovetskij, 1962).

Increase of the cholesterol quantity in tumorous tissue was confirmed by the experiments of F.M. Brikker and Y.G. Lazaris (1932). At the same time the authors showed increase of the cholesterol content is characteristic for each growing tissue, for example, the tissue in regeneration condition.

Thus, the brief data show that in connection with fatty and lipid metabolism, significant changes are observed in the whole organism. In tumor they are characterized by sharp increase of the cholesterol quantity and other fractions of lipoids, as well as reduction of phospholipids and neutral fat. These disorders of lipid metabolism, according to the majority of authors, can play a significant role in development and metastasis of tumors, as, apparently, favor the growth of tumor and suppress reactive capabilities of connective tissues.

Evidently, increase of the cholesterol level in blood these authors consider as an initial period of tumor disease of human. They proved the significance of cholesterol for tumor cells on experimental, as well as clinical material.

At present, the great interest in relation to the therapeutic effect on malignant tumors is attached to the bee product: bee honey, larval food, bee venom (apitoxin), bee-glue (propolis), ambrosia, bee wax.

Adelina Derevich, Alexander Popesku (1965, Romania) determined the effect of propolis on cells of carcinoma ascites.

The experiments were held on white mice, the ascitic fluid was inoculated, adding propolis, as of control for which served the ascitic fluid. Microscopic examination was performed after an hour, after three hours at 37° temperature.

In an hour after establishing contact between the tumorous cells and factor F, at temperature 37°, the factor F of propolis effects breaking off of vesicular groups cytoplasm concentrated around the large nucleus. In difference with the tumorous cell made for comparison, in the field of microscope are seen the cells covered with amorphous contents concealing their structure and forcing them to pile up.

These aspects are revealed during study of wandering and achromatic cells by phase-contrast microscope, also during study of fixed and chromatic cells according the method of May- Grunwald-Jimes.

Morphological changes are exhibited more vividly after three hours contact, amorphous material collects the majority of cells in loose coverage; only seldom cell dark patches point to the cell conformation.

Derevich and Popesku admit that morphological changes reveal the complex processes; they, in the first place speak for the effect of these substances on lipoprotein cell membrane.

Further the metabolic changes occur – discharge of the cholesterol to the environment, reduction of cell breathing, full ceasing of breathing of ascetic cells.

Similar results were obtained by Palmer, Rhodes and Varen.

V. Mladenov and V. Kazanjieva used the bee venom produced in Bulgaria against disease of peripheral nervous system: radiculitis, nephritis, plexitis, etc. 203 patients were treated with good results.

According to the authors, on the basis of obtained therapeutic results we may determine that anatoxin blocks conductivity of sensitive nerves, reduces and stops neuralgic and rheumatic pains, dilates small blood-vessels, improves irrigation of tissues with blood. The bee venom stimulates hematosi. In 70% of cases erythrocytes increased from 50.000 to 500.000. In 65% of cases hemoglobin increases from 12% to

18%. Concealment of blood in 80% of patients, especially of those suffering from rheumatic and rheumatoid arthritis, reduced. Cholesterol in blood was also reduced.

Treatment with the bee venom had good results. Mladenov and Kazanjieva recommend its wide application in the medicinal practice.

Proceeding from these preconditions, on the basis of clinical material we studied effect of the preparation Camelyn on the cholesterol level. As a result of studies excellent results were obtained. For illustration below see several examples.

Cholesterol level in the blood of the patient M.K. before treatment with the preparation Camelyn was equal to 357-IV. After treatment – 200-0; cholesterol in the blood of patient M.K. before treatment was 278-III, after treatment 185-0; cholesterol level in the blood of patient Ts.G. before treatment with Cmelyn was 294-IV, after treatment 143 mg %; cholesterol before treatment of the patient M.D. before treatment was 226 mg%, after treatment 190 mg%; the patient (diagnosis carcinoma of the urinary bladder) A.N. before treatment with Camelyn cholesterol was 176 mg%, after treatment – 113 mg%; patient A.O. (diagnosis carcinoma of the urinary bladder) before treatment cholesterol in blood was 147 mg%, after treatment 133 mg%.

As the cholesterol level is not always high in the blood of the patients suffering from the malignant tumors, we selected the patients having cholesterol higher than the norm and not suffering from tumorous diseases, with the exception of the last two (cardiosclerosis, hypertension).

For normalization of the cholesterol level in the blood 10-15 days of treatment with the preparation Camelyn is sufficient. Here should be marked that the preparation has similar action irrespective of application in the form of tablets or intramuscular injections.

The obtained results of the above experimental and clinical data, confirm once more and make capable to suppose that the preparation Camelyn together with antiviral action, is an anti-metabolite, as it contains all the above mentioned bee products.

As a result of the preparation action in the tumor cells metabolism is changed, in consequence of which the necrosis of cells is developed that was proved by experiments. At the same time, the preparation stimulates growth and reproduction of young connective tissues.

The given issue at present is being studied in more details, the obtained data will be published. In addition, action of the preparation is enhanced and there's a perspective of its further increasing.

On the basis analysis of the literature data and result of own observations, the following conclusions may be made:

1. Apparently, the preparation Camelyn has an anti-metabolic properties (antitumoral, antibacterial) and is a strong biological stimulator of the human organism.

2. The preparation is not toxic, has no side effects.

In the cases of recovery of neoplasm, the relapse is not developed, especially in the existence of sarcoma.

3. Antitumoral action of the preparation is revealed in the cases of initial cancers. The preparation must be applied in tablets for the prevention purposes, especially against sarcoma.

4. On the terminal stage of cancer in the majority of cases, the preparations gives improvement with prolongation of the patient's life, in isolated instances the full recovery.

5. Camelyn must be administered in two forms: solution in ampoules and powder in tablets.

6. The preparation is applied intravenously, intramuscularly (ampoules) or perorally (tablets).

7. Application time of the preparation exceeds 10 years.

Application of the preparation Camelyn I

Represents a biological stimulating substance.

Is obtained in the liquid form from the special sort of honey.

PH=3-4 dilution 1:4, 1:8 does not change pH. Has an antitumoral and antibacterial properties. Administering of the definite dose of Camelyn is not toxic.

At administering in organism has an inhibitive action on the tumor growth, causes necrosis of the tumor cells.

Indications. Is applied against sarcomas and carcinomas of larynx, oesophagus, lungs, tumors of abdominal cavity, urinary bladder, prostate glands, uterus cervix, etc.

Dosage

The preparation Camelyn is prescribed intramuscularly in rising doses from 1 to 5 g 3 times per day with Novocaine.

At first 2-3 g 0,5-1% solution of Novocaine is administered, acus is left during 2-3 minutes, after the preparation is added reaching 5 g, duration of treatment 5-6 days, further gradually is administered 2-3 g. Course of treatment – 25 days.