The importance of hemp seed in tuberculosis therapy

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And.

When we speak of the use of hemp seed in the treatment of tuberculosis, we do not mean either chemotherapia in today's sense of the word, nor treatment specifically directed against Koch's bacillus, nor treatment oriented locally to pathological changes in the lungs, but overall conservative treatment with an emphasis on the component of dietetic or therapeutic nutrition. Therapeutic nutrition is then a branch of therapy that arose or came to life as a result of the Pavlovian physiological conception of the whole of medicine, including therapy, especially as a result of the command to "heal the whole man!" That is why even in our country, following the Soviet model, the importance of therapeutic nutrition in therapy, including phytheotherapy, is beginning to be understood. Of course, these are still only beginnings, still not very well regulated, and also not very fruitful. And it's no wonder. After all, even in the Soviet Union the whole question of medical nutrition is still in turmoil, and only a year ago we witnessed a great discussion in the Institute of Nutrition of the USSR, where even the most important dietetic work of the Pevzner school to date has been subjected to criticism, often very sharp. And yet it was M. I. Pevzner1 and, of the other Soviet authors, especially L. M. Model,2 who also correctly pointed out the most important elements of therapeutic nutrition in tuberculosis. Another Soviet author, O. L. Gordon,3 in his paper "Justification of Medical Nutrition in the Clinic and the Prospects of Its Development", said: "Medical nutrition is a therapeutic method. As a component of complex therapy, it has two tasks: to satisfy the physiological needs of the diseased organism and to actively influence the pathological process. This is what distinguishes medical nutrition from ordinary nutrition of a sick person." And F. K. Menshikov,4 a collaborator of the Clinic of Medical Nutrition, concluded that in the complex therapy of all diseases, a proper diet is absolutely necessary, while nutrition that does not correspond to the condition of the patient can have a negative effect. "Especially of great importance is therapeutic nutrition where we need to support tissue regeneration, because we do not have drugs that would actively act in this direction."

It would not be consistent to speak of "curative nutrition" without expecting more from it than mere nourishment, or to doubt that it could have an active effect in a therapeutic sense. Even today's physiotherapy, although it has relatively effective means at its disposal, must not forget that it can use these means only for certain sick people, and even for them it must not stake everything on that one card. In this regard, we should always bear in mind the words of V. L. Ejnis,5 with which he concluded his treatise "The Teachings of I. P. Pavlov and the Clinic of Tuberculosis":

"In spite of the considerable successes of chemotherapy and antibiotics as well as surgical treatment, which have greatly improved the prospects of physiotherapy, the basis of treatment remains systematic care to increase the overall resistance of the organism, and even now it is an important task to improve hygienic and dietetic therapy, including the nutrition of the tuberculosis patient. Here there is still a certain indifference, but we shall overcome this if we develop Pavlov's teaching creatively and promote the physiological trend in the theoretical and clinical research of tuberculosis."

II.

Towards the end of the First World War, physiotherapy freed itself from its impotence and launched a successful campaign against tuberculosis. Artificial pneumothorax, exairesa phrenic, thoracocaustics, thoracoplasty, extrapleural pneumothorax, Streptomycin, chemotherapia, lobectomy, these are some of the stops on the victorious path. These are also indisputable partial successes, each of which has undergone its period of excessive hopes, and perhaps each of them has also contributed to the somewhat forgetting of the "whole man", to the "certain indifference" towards the physiological aspects and to the hygienic and dietary treatment, which V. L. Einis rightly complained about. Hygienic and dietetic treatment was reserved by a

kind of tacit agreement for cases in which the use of "active" means could not or was not indicated for various reasons.

In this mutual competition of ever new means of "active" therapy, our small and in every way poorly equipped sanatorium in Jince could only be used somewhere in the last ranks. But this role of Cinderella was not entirely without advantages either. The less we could keep up with the avant-garde of modern physiotherapy, the more we paid attention to what others despised, but which was quite feasible in our small circumstances, perhaps even better than in large institutions: it was precisely hygienic and dietetic treatment, especially therapeutic nutrition. We did it well. And today, when we have thirty years of experience behind us, we are satisfied that Soviet science is gradually confirming almost everything we have arrived, whether by empiricism, induction, or a series of experiments. In the perfect functioning of the liver, we looked for the basic prerequisite for proper assimilation; Therefore, the first command of our dietetic treatment was: To exclude or limit as much as possible those foods that burden the liver, or possibly damage it, and to emphasize as much as possible in the nutrition of tuberculosis patients such substances that protect the liver and facilitate its activity. Thus, long before the present "liver diet" came into being, we laid its foundations, as it were, in passing, and we still logically regard these foundations as the prerequisite for every dietetics in general. For the role of the liver in the nutrition of man, and especially of the sick, is so immensely important in all its diversity that it must be protected and facilitated by everyone who wishes to preserve the "whole man" in good health or to cure it of any disease.

In pursuit of this principle, we have tried to exclude or reduce as much as possible from the diet of our sick all inferior fats, especially rancid and burnt fats, all fried or baked foods without abundant basting, rendered lard and clarified butter; all salted and pickled meats, all sausages, duck and pork meat (except boiled meat), duck eggs, strongly spiced and irritating dishes. On the other hand, in the nutrition of our patients, we emphasized in every possible way the relative predominance of proteins, in addition to light types of meat, dietetically modified, especially cottage cheese, of course expertly made, uncoagulated and undenatured, sour milk, yogurt, raw egg yolks or only soft-boiled, i.e. not coagulated; from fats, only natural fresh butter, fresh cream, olive oil, if they do not show signs of rancidity; fresh fruit or without preservatives, southern fruit fresh and dried, nuts, nuts, almonds; vitamins especially B1, A and C; potatoes in particular as complementary food, less flour complementary foods, boiled and steamed vegetables with butter, and if possible raw (carrots, etc.); Preferably fewer desserts, but of good quality.

Thus, we have long included in the nutrition of our patients those important substances contained in undenatured fresh natural fats and proteins, which we now know as liver protective substances (methionine, choline, inosite, unsaturated small molecular fatty acids), as well as those amino acids that are most important for metabolism (methionine, tryptophan, tyrosine, phenylalanine, etc.) and those accessory substances without which liver functions cannot take place properly (thiamine, carotene, ascorbic acid, vitagen-F).

We supplemented this regime of liver protection with some measures related to the technique of meals, in particular by reducing the number of daily meals to three, at most four and inserting long intervals of 4-5 hours without food and drinks, which also eliminated the usual overloading of the liver by too frequent serving of meals.

These dietary measures, practiced here in Jince a quarter of a century ago, were then and later a bold deviation from common practice and were not always easy to defend. But even a similar order by Professor Amerling from Olomouc that liver function should be respected in the nutrition of tuberculosis patients was mostly lost like the voice of one crying in the desert. And it took long years and unceasing tenacity to keep these reforms alive and viable until their justification was proved justified in the light of the Soviet doctrine of "therapeutic nutrition".

III.

We can tell the value of a tree by its fruit. The value of medical nutrition according to nutritional and therapeutic results. If we evaluate the various kinds of nutrients according to this criterion in systematic nutritional and therapeutic experiments, we will soon see how decisive is the purposeful selection of certain proteins, as well as their condition and preparation. Thus, although meat is the most common source of protein, and its importance for nutrition is indisputable, yet when we speak of therapeutic nutrition, the importance of meat remains far behind those proteins, e.g., milk or egg, which represent the exclusive

building material of a bird embryo or of a rapidly growing and prosperous mammalian young. I think we rightly call these proteins "plastic" because they are the real building material from which the tissues of the body are directly built. A daily ration of 100 to 150 g of professionally prepared plump curd in the form of hydrogel and two raw egg yolks mixed with other foods will soon have a disproportionately more favourable effect on the sick person than their weight and caloric equivalent in the form of meat. But coagulated cottage cheese, denatured, as we call "trupelky", prepared by rapid coagulation of milk that is too acidic and too hot, or egg yolks coagulated by boiling "hard" or frying or other similarly unsuitable preparation, will not have a more positive effect than a meat diet.

In the case of a disease such as tuberculosis, which in its active stages is characterized by a tendency to destroy not only the affected organ (e.g. lungs), but the whole body (weight loss, autolysis of the muscles and other tissues), we cannot appreciate enough such food that can serve a living organism as a building material, nor can we devote enough care to supplying this precious material to the sick organism in an undenatured state. colloid, in which it best preserves its specific dynamic effect.

The importance of this command becomes even more evident as soon as we include plant proteins in the therapeutic nutrition in addition to proteins of animal origin.

The main sources of vegetable proteins suitable for human nutrition are seeds, grains, grains and other fruits. Which of them can be eaten fresh raw or professionally dried (nuts, figs, etc.), we can easily bypass the pitfalls of denaturation. But mostly people live on grain in the form of baked and cooked flour dishes. The Aleuron layer of cereal grains, with its dietetically important proteins and the richness of vitamin B1, remains in the mill, the rest is denatured by baking or boiling in water. Anyone who has never tried to give his patients such an ideal dietetic meal as professionally prepared porridge daily will find it hard to believe that in this form a daily dose of only 15 to 20 grams of oatmeal will soon manifest itself in a clear restitution of the state of nutrition and stimulation of healing processes, while a dose of cereal proteins denatured and coagulated by other methods of preparation will not show any effect in either direction. Of course, there are certain differences between oats and other types of grain: the aleurone layer is retained; in addition to the richness of vitamin B1, there is also more vitamin B2 than in other cereals; in its gluten, gliadin predominates over glutenin; there is disproportionately more fat than in other cereals, which gives the oatmeal a nutty flavor and considerable satiety; There are also glucokinins, substances that lower blood sugar, so they act per os similarly to insulin parenterally. But most of these benefits are wasted when we boil oats in water or soup, or denature them with other inappropriate preparation. They will be reduced to mere food, calorically valuable, but without the significance of therapeutic nutrition. Only milk and careful preparation will preserve the proteins of the oat grain in a colloid dietetically active state.

IV.

From the oat grain, there was a direct path to the hemp grain or seed. Not because our ancient ancestors considered seed porridge and soup to be "bad food", but because with its edestin content and its wealth of enzymes, the seed occupies a leading place among seeds in general.

Chemically, edestin is very different from gliadin and other cereal proteins, closer to nut and oilseed proteins. It is a globulin as perfect as we would look for in vain in the plant kingdom. It contains a large amount (up to 19%) of Arginine, the amino acid that promotes growth and new formation. It contains Methionine like casein, an important liver protective substance. Just as casein contains Tryptophan (an important provitamin pp-niacin), which is lacking in cereals and without which nitrogen balance cannot be achieved in nutrition, it contains almost all known amino acids, and especially the basic and necessary ones, without which it is impossible for the organism to grow and euphoria, without which food is never complete and without which hypoproteinaemia occurs. which the Soviet author L. M. Modil in particular rightly pointed out as the root of evil in tuberculosis. It is not possible to go into further details in this brief statement. Let us only realize that those amino acids which are most important for therapeutic nutrition, such as Tryptophan, Tyrosine, Phenylalanine, are cleaved in the first order during the digestion of edestin, that we have much more arginine, cystine and alanine in edestine than in other proteins of plant and animal origin, and that finally those amino acids which are less abundant in edestine than in animal proteins, In medical nutrition, we can easily substitute cottage cheese: and we have enough reasons to include hemp edestin among the most important components of therapeutic nutrition for tuberculosis, along with cottage cheese, egg yolk and oat gluten.

As we have already seen with the other proteins, especially with edestin, it is very important to maintain the colloid state. In this respect, our preparation EDEZYM (which is a digraph of the words edestin and enzyme), which had been on sale for many years, but which was not included in the production plan when the pharmaceutical industry was nationalized in 1948, was well suited. However, we can also help ourselves with simple home preparation, if we have only a quality seed, not older than two years old, if the proteins and enzymes in it are preserved in an active state, which can be easily convinced by a germination test. The old recipes according to which our ancestors prepared seed soup and seed porridge, if they have been preserved at all, are not necessary. They usually involve coagulation and denaturation of edestin. Since it is then necessary to remove the outer seed shell, which, unlike oats, is indigestible, disgusting when eaten and irritating when digested, there is perhaps only one option left for our purpose: to convert the digestible content of the seed into a colloidal solution and to remove the indigestible ballast by pressing and straining.

This requirement is best met by the extraction of the ground seed with hot milk at a temperature between 60° and 80°C, stirring constantly and preferably in a water bath, at least improvised, so that the bottom of the container does not get too hot, otherwise the edestin will start to coagulate from the bottom and eventually all of it will precipitate. Milk can be skimmed, but completely fresh and without preservative additives. The "sweet" whey that we get from fresh milk when we precipitate casein with chymosin is also enough. The maceration of the seed at the given temperature should take at least half an hour, preferably longer. We press the finished colloid strongly, strain it, sweeten it slightly if necessary and either let the sick person drink it immediately or keep it at a temperature above 60 °C in a water bath until it is used, so that hydrolytic (or fermentative) cleavage of active substances does not occur in it. One dose prepared from 3/8 litre of milk and 50 - 80 g of seed is drunk by the patient every other day on an empty stomach, after a long interval from the last meal.

In.

The human organism has the ability to cope with tuberculosis under favourable conditions and within certain limits even without special treatment. Even in the times when there was no calmetisation even of today's modern antibiotic and tuberculostatic drugs, most cases of primary infection healed spontaneously, at least in the case of children who were already somewhat grown-up. Of course, it was only the modern organization of the fight against tuberculosis (calmetisation, children's counseling, regular X-ray check-ups, etc.) that significantly reduced the mortality rate of young children to prove that even in the case of primary infection it is not good to rely too much only on the spontaneous healing and defensive ability of the child's organism.

This is especially true in cases of post-primary (secondary) childhood tuberculosis of the lungs and intrathoracic lymphatic glands. Here, too, however, there is a rather significant tendency towards spontaneous healing, but the assumption of favourable conditions plays a decisive role here. In recent times, in these cases of "secondary" pulmonary tuberculosis, which falls mainly at school age, there used to be a rather high mortality rate, especially among the poor, to show how much depends on the living conditions in which the sick child lives.

Finally, in adults (tertiary pulmonary phthysis) spontaneous healing of lung changes is incomparably rarer than in children, but it is nevertheless more probable where the conditions of life are more favourable. Therefore, even in times when there were no effective drugs against tuberculosis, a relatively larger percentage of adult tuberculosis patients from the better-off strata were saved, while the percentage of tuberculosis mortality among the poor was always higher.

Of course, wealth and poverty do not have to be the same as good and bad living conditions. But unlike today, when the living conditions of all in our countries are fairly equally taken care of, in earlier times it was easier for wealthy people to secure good living conditions if they were clear about what such favorable living conditions consisted of. Money without knowledge is not enough for this. And the knowledge necessary for this is expressed in every age by the current scientific content of the term "hygienic and dietetic treatment."

The meaning of this term has always developed and changed and will undoubtedly continue to change with the continuing general scientific development. Not too long ago, overfeeding tuberculosis patients, regardless of their liver, was considered expedient and desirable. Today much has been corrected in this respect, but many still call for correction. The rapid and successful development of "active" treatment methods perhaps absorbs too much the attention of the phthiseologist and leaves too little interest for the

systematic elaboration and scientific deepening of hygienic and dietary methods, although no one denies that these methods, even if they are "active" in addition to the most effective ones, remain the indispensable basis of all anti-tuberculosis treatment.

Why, then, in spite of all the advances of "active" therapy, do hygienic and dietetic methods (especially therapeutic nutrition) remain the necessary basis of all treatment? Because it is from them (and especially from them) that we expect to meet those favourable conditions under which treatment is easier, or under which spontaneous cure is possible.

To meet or restitute such conditions in which the human organism is able to cope with the disease is the true mission of the treatment of hygienic-dietetic and specially therapeutic nutrition. Whether we succeed in this and whether we want to call the resulting healing "spontaneous" is more a question of appropriate terminology.

If, by applying a certain system of therapeutic nutrition, we achieve that the forms in which "spontaneous" healing is possible at all are healed with considerable probability or regularly, and if at the same time we achieve restitution of the general state of nutrition and physical development which has been retarded and declined as a result of tuberculosis disease, then we have solved our problem, that is, we have found the favourable conditions. under which the human organism is better able to resist tuberculosis, or to deal with it if necessary.

VI.

As a test stone of such a system of therapeutic nutrition, we will best use cases of post-primary (secondary) childhood tuberculosis of the intrathoracic lymph nodes and lungs, associated with a pathological decline in the general state of nutrition and physical development. For these cases usually show a marked tendency to "spontaneous" healing, but only under good living conditions. If, therefore, we obtain a radically favorable reversal in such cases, both in terms of the healing of the pulmonary finding and in the state of nutrition and physical development, then we have most likely given proof that the system we have employed represents the favorable conditions sought.

In the following, I present two groups of children who will provide us with appropriate documentation for this fact.

The first is a group of 16 children (8 boys and 8 girls) treated in the sanatorium in Jince in 1938. At a time of heavy worries, when the sanatorium - then a private enterprise - was empty as a result of the economic crisis, and when the threat of Hitler's occupation hung over us like a heavy cloud, I offered the Prague local groups of the Czech Red Cross a free shelter and treatment with all the provisions for twenty tuberculosis children, and in a few days we filled the first floor of the building with these more than other dear guests, sick members of the Prague poor from the districts: Nusle, Pankrác, Michle, Košíře and Kobylisy. After a few days, we eliminated four of the twenty children and took them back to Prague, two because we did not find active tuberculosis changes in them, and two because for certain reasons it was not possible for them to remain among the other children. The other 16 children were treated here for various periods of time, as stated below.

The children usually came to us in a state of more or less depressed nutrition. Tuberculosis disease (primary and post-primary) was detected and checked by the relevant Prague doctors, from whom we took the children.

In our country, the children (as well as adult patients) ate only three times a day and drank only while eating, so there is no question of overfeeding. Once a day they had a meat main course, once a day 100 g of cottage cheese with 25 g of cream (so-called rozhud), once a day oatmeal made from 15 g of ground oatmeal, at noon always after soup 75 g of grated carrots with a few drops of lemon juice and a spoonful of cream, twice a day 100 g of fruit, twice a day 20 g of fresh peasant butter, otherwise mixed home-made food with a restriction or exclusion of foods that put too much strain on the liver.

The children did not take any other drugs than the colloidal extract of the hemp seed EDEZYM, which I mentioned in paragraph IV, which they took three times a day a tablespoon always a quarter of an hour

before meals (without drinking them), then vitamin B1 and vitamin C, which they took two tablets a day, although the diet itself was quite rich in vitamins.

In tuberculosis children, the usual aversion to food and pickiness in food disappeared in all children without exception in the first days of treatment. From the very first days, all of them showed a clear and profound change in their general health.

On average, boys gained weight by 1 kg in 14 days, girls by 1 kg in 20 days. On average, boys grew by 1 cm in 35 days, girls by 1 cm in 38 days. The volume of the chest in inspiration increased by an average of 1 cm in boys in 18 days, in girls by 1 cm in 20 days. This improvement in the general condition and physical development of all 16 children is evident in the photographs taken at the beginning and end of the treatment (Fig. 1 to 32), and expressed in numbers, it appears in individual children as recorded in the following overview:

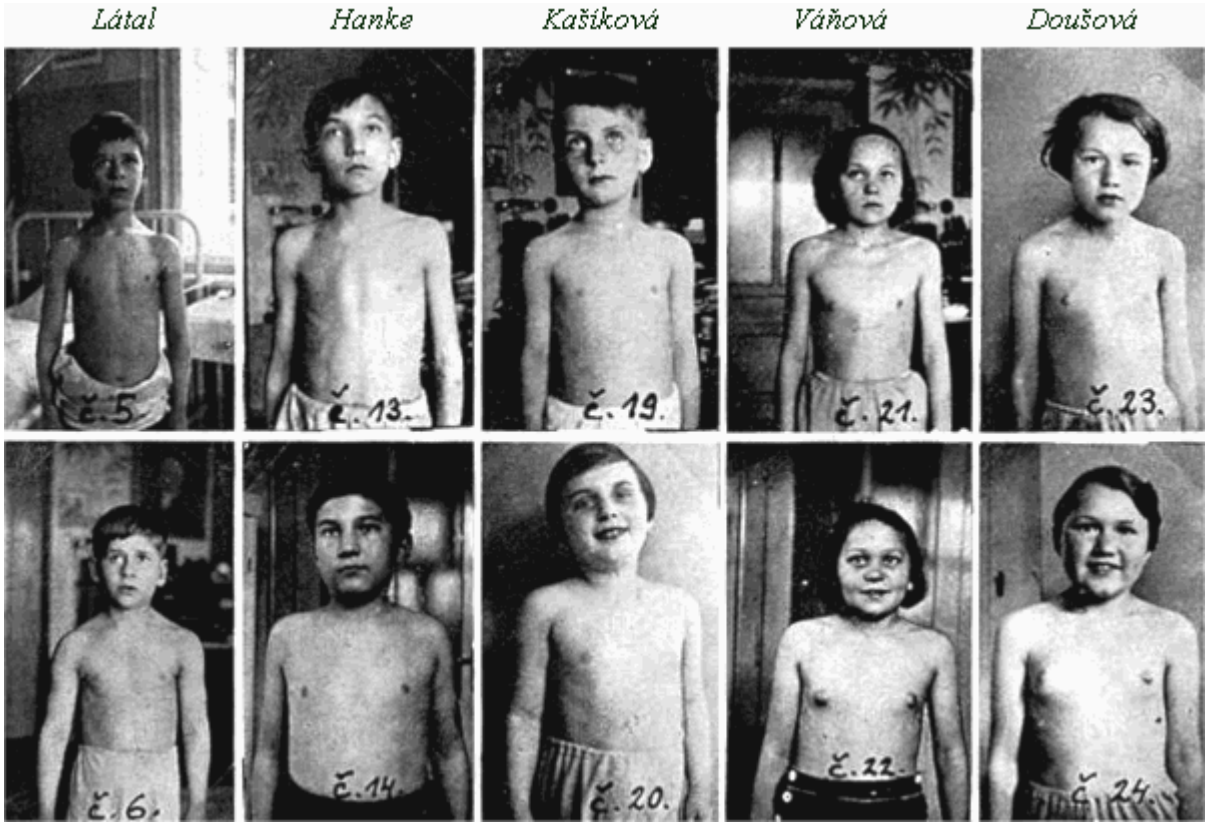
Fig. no.	Age of years	Child's name	Treatment lasted days	Weight gained +kg	Grown +cm	Chest volume	
						v inspiriu +cm	v expiriu +cm
1-2	6	Jartym Otakar	99	1.6	1.5	1	0
3-4	6	Beck Jindřich	49	1.3	1.5	2	1
5-6	8	Ladislav Latal	52	4.3	1.5	3	3
7-8	8	Skřivánek Mir.	82	3.-	2.-	5	2
9-10	8	Dittrich Karel	52	2.5	1.5	2	0
11-12	8	Machcinyk Jar.	73	3.1	2.-	2	1
13-14	12	Duck multiplicity	126	13.-	3.5	9	9
15-16	16	Kocman Mirosl.	153	20.-	6.-	14	12
17-18	3	Fádrhonsová Olga	222	3.-	4.5	4	2
19-20	7	Kašíková Helena	159	8.6	4.5	10	8
21-22	11	Váňová Marie	174	10.-	5.-	6	5
23-24	11	Doušová Marie	238	7.5	7.5	8	6
25-26	12	Half-crab Hel.	61	3.5	1.-	7	4
27-28	12	Záhlavová Marie	52	6.2	1.-	7	5
29-30	12	Šrůtová Růžena	159	13.1	5.-	11	10
31-32	12	Prošková Miluše	126	7.2	3.-	5	5

Since a whole group of 16 children treated in the same way under the same conditions is presented here indiscriminately, and the result is unequivocally favorable for all of them, there can be no doubt that this treatment was effective. The food itself, given only three times a day, was neither more abundant nor more calorically rich than that given to all children in mental institutions, and mostly in families, once it was

established that the child was ill and in need of hearty nourishment. On the contrary, we might speak of overfeeding where food is served five or six times a day and represents a greater number of calories.

This simple consideration alone shows that the calories on the plate are of no use if we are not able to arrange nutrition in such a way that it is actually used and assimilated. And we take care of this in our patients by:

1. we do not burden the liver and other digestive and digestive organs with harmful foods or by unnecessarily frequent serving of food, but on the contrary, we support their function by abundant administration of accessory substances (vitamins, etc.),
2. If possible, at every meal we give some of those "plastic" proteins that we have come to know as a natural building material, necessary for the construction of animal and plant organisms (cottage cheese, egg yolk, reserve proteins of various plant fruits, cereal and especially oat gluten, hemp edestin).
3. These "plastic proteins" are administered in seemingly small daily doses (e.g. 100 g of cottage cheese, 1 egg yolk, a few nuts, barely 15 - 20 g of oats, just as much hemp seed), but in a colloidal, undenatured and uncoagulated state.



Photographs of some children at the beginning and end of treatment.

The importance of such modified and hemp edestin-supplemented medical nutrition becomes all the more apparent when we realize that it was the only essence of the entire treatment. after all, we did not use any other drugs and remedies besides this therapeutic nutrition and EDEZYM, and even at that time, i.e. in 1938, there were no other effective drugs against tuberculosis.

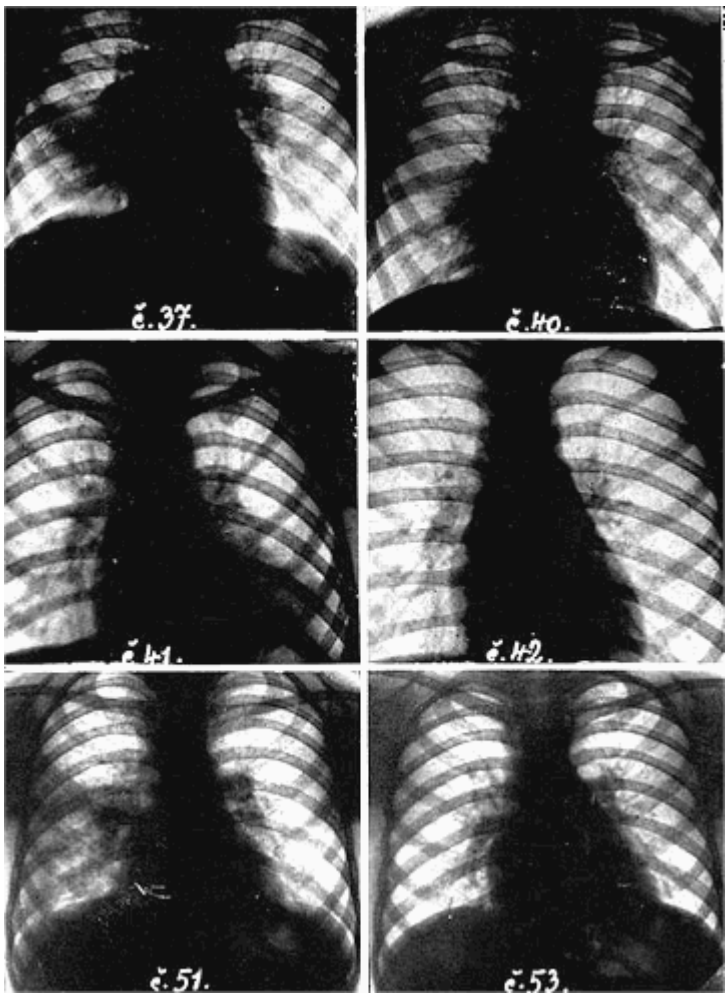
Another ten cases represent a looser group of children and adolescents treated at the end of the Second World War, during the occupation. Only one case comes from an earlier period, i.e. from 1933, and I have assigned this girl (11-year-old Maria Plecita) to this group because, except for the remoteness of time, she has everything else (pathology and therapy) in common with the other nine.

At that time, the local sanatorium was fully occupied by adult patients, only 5-year-old Luděk Ledecký was treated here together with his father, who was also tuberculosis. The others were mostly treated at home

under our outpatient supervision. This group does not represent a selection either, it is all the children we treated on an outpatient basis at that time, these cases were quite exceptional.

The nutritional situation of the nation was not great at that time, and accordingly these children in the home regime lacked much of what the first group had in abundance in the sanatorium in 1938. There was no talk of cream. There was also a shortage of cottage cheese at that time, and if the parents of our little patients got it, it was of poor quality, stiff, coagulated, "scabbed". There was a shortage of butter and quality fats in general, quality meat and often eggs, sugar and other important foods. Such nutrition was too poor even for the healthy, even more so for the sick, even though they received ration cards for foodstuffs, usually not suitable dietetically. Nevertheless, even those difficult times left our patients with two things, perhaps the most important besides cottage cheese: oatmeal and EDEZYM. And so, even in those difficult times and with the often half-hearted home diet, we achieved no less convincing therapeutic and nutritional successes with this second group than with the first group in 1938.

These cases of the second group also belong to a time when children were neither protected by calmetization nor could they be saved by modern chemotherapia or antibiotherapy. Of course, at that time we did not have the possibility of a detailed diagnostic analysis of individual cases according to today's physeological requirements, namely the lack of tomographic research, and so it is only possible to estimate approximately according to normal X-ray images, for example, where atelectasis ends and inflammatory changes begin, where and to what extent disintegration and spreading are proven, etc. Nevertheless, even these normal X-rays quite convincingly prove the fact that in all children of this group this treatment caused a fundamental change in the course of the hitherto progressive course, i.e. regression of pathological changes in the glands and lungs, and mostly also a noticeable restitution ad integrum. If we add to this the fact that, in parallel with this favourable development of the pulmonary finding, the same favourable turn in the overall health condition occurred in all children from the very beginning of the treatment, which had been steadily and progressively declining before the start of the treatment, then it is clear that even the little that was left of our medical nutrition in times of war distress (oatmeal, EDEZYM, a little cottage cheese, some egg yolk and liver protection), that is, that the essence of the effective agent lies in the little.



Radiograms of some children at the beginning and end of treatment.
Emil Langer, Růžena Hůrková, Blanka Čistá

The following overview briefly characterizes the treatment result achieved by this treatment in the second group of children treated on an outpatient basis, both in terms of pulmonary findings and overall nutritional status and development:

Skia-grams No.	**Age of years**	**Name**	**Characteristics of pathological changes at the beginning of the treatment of the day**	**Treatment lasted weeks**	**Treatment result of the day**	**Change of weight kg**
33, 34 35, 36	14	Mutton Libuše - the first treatment	10.VII.1944: Lymphadenitis hilosa, right-wing. Sluka's triangle, weight drop -6 kg, subfeb. temp., menopause	18	17.XI.1944: Normalization of pulmonary finding and general condition, menses again rule.	+9 kg
		T a z - second	26.XII.1944: Pleuritis exudat. dx., Weight	5	30.I.1945: Normalization of pulmonary	+8 kg

		treatmen t	drop -6 kg, temperature febrile		finding and general condition.	
37, 38 39, 40	5	Langer Emil - first treatmen t	24.VI.1941: Bilateral tumor of the hilar glands, right-wing. Sluka's triangle	4	24.VII.1941: Disappearanc e of Sluka's triangle, part. regression of the glands	+2 kg
		T ý ž- second treatmen t	18.I.1942: Double-sided Sluka's triangle, weight drop -2 kg	38	10.X.1942: Disappearanc e of Sluka's triangle, regression of glands	+4.5 kg
41, 42	8	Hůrková Růžena	23.IV.1946: Sickly and stunted from an early age, aversion to food, Pirquet ++. Soft confluent focal changes in the left lower lung. Fields and hilum	28	11.XI.1946: Liquidation of the lungs. finding, grew up and reached normal. developments	+6 kg
43, 44	11	Poláček Vítězslav	11.VI.1944: Pulmonary finding as in the previous case	21	9.XI.1944: Liquidation of the lungs. Finding	+5 kg
45, 46	5	Ledecký Luděk	6.VI.1946: Again the same find, but right-sided. Large hard lymphons on the neck, under the jaw, vinguins. Pirquet ++	21	The only case in the group treated in an institution. Elimination of lung findings and glands	+4 kg
47, 48	20	Balej Antonín	1.III.1943: Lack of appetite, cough, night sweats, weight -3 kg FW 44-72. On the left, a paraphilous soft bearing. changes are made by the Inspectorate. Disintegration	27	3.IX.1943: Healing of the pulmonary finding, disappearanc e of symptoms, restitution of the general condition	+7 kg
49, 50	19	Dupákov á Jarmila	18.VII.1943: Finding as in the previous	22	18.XII.1943: Liquidation of	+4 kg

			case with distinct parahilos. decay, FW: 52-90, BK direct posit.		the pulmonary finding, disappearanc e of symptoms, restitution of the general condition	
51, 52, 53	6	Clean Blanka	6.V.1944: He coughs for several weeks, eats badly, increases. temperatures. Tumot of hilar glands. From the right hilum comes a soft bearing drawing to the center. and the lower field	18	6.IX.1944: Involution and calcification of glands, resorption of deposit changes, restitution of the general condition	+5.5 kg
54, 55, 56, 57, 58	10	Vospálek Václav	Sickly since he was a child. He had just returned from the hospital. Cachexia.15.VII.194 0: Pleuritis exsud. Sin. After resorption exsud. a decay of the size of a walnut appeared above the diaphragm. Walnut. BK dir. ++	59	30.VIII.1941: Healing of the lungs. finding, a significant improvement. total. State. After several years of misery, he finally graduated from school and learned a trade	+5 kg
59, 60, 61, 62, 63	11	Plecitá Marie	30.III.1933: Focal changes in both lower lobes of the lungs. Pleuritis diaphr., parietal. kachexia, Pirquet ++	12	22.VI.1933: Liquidation of the pulmonary finding, restitution of the general condition	+6 kg

VII.

On twenty-six tuberculosis children and adolescents, presented in two groups "as the herd runs, i.e. without selection, we were able to observe both from the therapeutic point of view and from the nutritional or developmental point of view, the unequivocally beneficial effect of the above-described and justified therapeutic nutrition, supplemented with cannabis edestin.

Although the attached documentation, dating from ten to twenty years ago, does not fully meet the requirements of modern physeology and leaves in some cases uncertainty as to whether this or that pathological change or group of changes was or was not of a specific character, there is not the slightest doubt that:

1. all children were admitted to our treatment in a state of progressive decline in general health and also mostly proven progression of lung disease;
2. In all of them, this treatment immediately caused a turnaround in terms of regression of pathological changes and improvement of overall health
3. In all of them, without other drugs or medical procedures, the healing of the lung or glandular disease was achieved in a very short time, and in the same short time, with only three daily meals, not excessively abundant, far-reaching restitution of the state of nutrition and physical development.

From these facts alone, it is clear that this treatment or therapeutic nutrition proved to be very effective, at a time when there were no other similarly effective means; that this treatment saved the endangered lives of tuberculosis children (and of course adults) and could have saved many more if it had received the attention it deserved.

In the case of the first group of 16 children, members of the Prague suburban poor, one might object that the revolution in their state of health was caused by the fact that they were transferred from poor living conditions and sometimes even from unhealthy apartments to a hygienic environment and relative prosperity. Of course, this moment has also acted, and does in the same way, in every transfer of a sick child to a medical institution, and yet we do not always and in all cases see such unequivocal and decisive successes without the use of any other remedies and remedies. But this objection loses its significance even when we compare the first group with the second group: the children of the second group, with one exception, did not change their environment, but were treated at home, and this "relative prosperity" was all too often limited by the cramped economic conditions during the occupation. And yet, even in this second group, under such unfavorably different conditions, we see the same convincing and unambiguous results, the same flowering of the general condition and the retreat of pathological changes.

It is this comparison of the two groups of children that leads us to discover what was essentially effective in curing both of them: certainly not the whole influence of the changed environment and the relative prosperity with which we surrounded the children of the first group, but which the children of the second group lacked. But of all this there were only those elements which the second group also received, i.e., which were common to both groups. The active substances were: oatmeal porridge, EDEZYM and mostly cottage cheese. Effective commands: to save the liver, i.e. mainly to exclude foods that overload the liver, and to exclude frequent serving of food and drinks.

Assuming that the order to spare the liver is a natural part of the patient's hygiene, we can reduce the whole problem to three main elements: porridge, EDEZYM and cottage cheese. This does not mean, however, that raw or "soft" egg yolks, nuts, raw vegetables, fruits, and other things recommended above are superfluous. But the decisive influence, as we can see from the analysis just made, belongs to the trinity: oats, seed, curd. And we repeat what has been explained in more detail above: all three in such a way that their proteins are in a colloidal, undenatured and uncoagulated state. All other active substances of therapeutic nutrition can be more or less lacking by the patient, just as children of the other group lacked them to a greater or lesser extent, without such therapeutic nutrition having to fail. But if one of the three basic pillars of this treatment falls out, or if it is spoiled (denatured) by inappropriate preparation, the result of the treatment is necessarily fragmentary and half-hearted.

Today, however, when we do not have EDEZYM and cottage cheese is not always of good quality, we have Streptomycin, PAS, INH, not to mention surgical methods. But beware! A conscientious doctor, for whom therapy is not just a template, always considers the light and dark sides of these drugs, and as with adult patients, even more so with children, he resorts to them only in cases that are really suitable and in doses that are really tolerable. If he understands the importance of liver protection, he is doubly careful, especially with para-aminosalicylic acid. And especially in cases in which a more protracted course can be expected, he takes care not to "run out of ammunition before the main battle", i.e. not to apply full doses of antibiotic and bacteriostatic drugs too early and too recklessly, and not to stand without weapons against the further course of the disease, or exacerbation or relapse. And all these necessary considerations confirm our belief

that a remedy so relatively effective and at the same time absolutely harmless in any use as our medical nutrition is not to be discarded even today, in the age of antibiotics.

We in Jince still today subject our patients, mostly adults and mostly chronic, to proper preparation before we start antibiotics or tuberculostatics: we try to educate the disorderly to order food and drink, we try to retrain smokers to be non-smokers, we try to involve everyone in the liver protection regime, we instruct the ignorant. Of the important elements of our therapeutic nutrition, we try to provide them with as much and as best as possible. Usually we achieve, especially in disciplined patients, a nice improvement even without medication. Only when the therapeutic progress is stagnating, we use antibiotic and bacteriostatic drugs after careful individual consideration, the effect of which, however, continues to be supported and supplemented with therapeutic nutrition. However, this therapeutic nutrition is also a basic component of our education of patients for home regime treatment, it is a gift that a disciplined patient takes home from us on the way home.

SUMMARY

The use of hemp seed in the treatment of tuberculosis is based on thirty years of experience that we have gained in the field of medical nutrition at the tuberculosis hospital in Jince. We have always seen the proper functioning of the liver as a prerequisite for perfect assimilation, so we have always emphasized those commands and restrictions that we now know as the basis of the liver diet. To a certain extent, we consider them to be the universal basis of every therapeutic nutrition. Therapeutic nutrition for tuberculosis must accentuate, in addition to vitamins B1, C and A, in the first place proteins, and especially those that have the natural ability to serve as building materials in the construction of organisms. These are mainly cottage cheese, egg yolk and reserve proteins contained in grains, nuts and other fruits. It is then important that these proteins are prepared without denaturation. Professionally prepared cottage cheese is valuable dietetical, but solid and coagulated is dietetically insignificant. Similarly, the yolk is raw and the yolk is hard-boiled. A daily dose of only 15-20 g of oats in the form of expertly prepared oatmeal soon proves to be a highly medicinal substance, while twenty times higher doses of cereal proteins denatured by baking or boiling in water remain a mere dietetically indifferent nutrient. Hemp seed ground and extracted with milk at a temperature between 60 and 80 ° C will have a significant therapeutic effect even in small doses. A good touchstone of such a medical diet supplemented with hemp seed is the malleable organism of a tuberculosis child.

LITERATURE

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Note: From the documentation presented in both tables we publish in this publication the following pictures: Nos. 5 and 6 (Látal), 13 and 14 (Hanke), 19 and 20 (Kašíková), 21 and 22 (Váňová), 23 and 24 (Doušová), as well as reproductions of skiagrams 37 and 40 (Langer), 41 and 42 (Hůrková), 51 and 53 (Čistá). Other photographs and decursions are available at the author's place.