

Aegyptus et Pannonia VIII.



Acta Symposií anno 2021

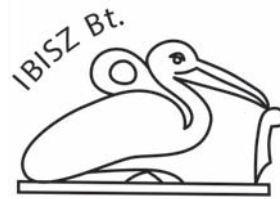
BUDAPEST

Aegyptus et Pannonia VIII.

Acta Symposii anno 2021

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“Plants for Health from Ancient Egypt to Present Day” Conference and the HEFS AEC

DR. HEDVIG GYŐRY PHD
HEFT AEC president

After the realization of the 2019 mummy conference, the need arose to discuss the new trends, methodologies and achievements in ancient materia medica from a phytotherapeutic point of view and to disseminate the results achieved by our in-depth research. With this conference, we also wanted to explore how many different ways there are to approach ancient plants and medicine, also from historical, cultural, religious, ethnographic and pharmacological points of view, and to compare it with other related fields. We also wanted to draw attention to other areas of research into plants that maintain and improve health. In this way, contemporary and historical treatments were juxtaposed, Egyptian, Hittite, Greek, Roman and later European herbal medicine, to mention only the most important regions studied in these proceedings. The conference was held in two languages, English and Hungarian, but all the articles in the proceedings are English. We hope that this way we can bring these issues to the attention of as many people as possible.

This time we have chosen to discuss the plants used for health problems. A significant proportion of the substances in ancient Egyptian prescriptions are of plant origin. Reviewing and studying their effects and data can also provide new opportunities for the current pharmacopoeia. Our group of doctors thought that there was a lot of new knowledge to be gained in this area worldwide, and that the knowledge of plants is becoming increasingly important, if we only think of the research into pathogens, many of which have adapted to synthetic drugs. We need thus new materials to use to eliminate them, and earlier medical practices may lead to the discovery of new active substances that are important for people today. Knowledge of these active ingredients makes it possible to apply these drugs as new medicines in a consistent quantity and quality. On the other hand, there are also many places where conditions do not allow the use of drugs produced by modern technology, but nature can help patients with its often hidden treasures. In addition to pharmacological research, folk remedies studied by ethnomedicine

and historical medical research play an essential role in getting to know them.

The HEFS AEC partly organizes its activities in cooperation with other organizations – the above-mentioned international workshop of the Nephthys project in 2022 was co-organized by the Hungarian Natural History Museum, while this very conference took place in partnership with the HNM Semmelweis Museum of Medical History, whose members gave several lectures on historical medicine and modern ethnomedicine, and where a special chamber exhibition would have welcomed the participants in honour of the conference, if the COVID had not prevented the organization of a face-to-face meeting. Nevertheless, we were able to offer the possibility of discussions and consultations in special virtual chambers, allowing the exchange of professional experiences.

The HEFS AEC has published these new proceedings, this time in two volumes (*Aegyptus et Pannonia VII-VIII*), containing more than half of the papers presented at the conference: “Plants for Health from Ancient Egypt to Present Day”. As we focused on our main research topic in the Medical Research Group of the HEFC Ancient Egyptian Committee, we wondered what the scientific community thought about the ancient Egyptian use of plants in various fields of human and natural sciences, the continuity of related knowledge, and the implications and possibilities of these ancient practices for people today. We also wanted to present the ideas we had developed and the results we had achieved in the professional field, and to provide an opportunity for specialists to discuss different topics. In terms of the structure of the proceedings, we have returned to the previous method of the series, so that the articles are once again listed in alphabetical order of authors, rather than by subjects

THE HEFS ANCIENT EGYPTIAN COMMITTEE AND THE MEDICAL HISTORY

The HEFS, which has been operating since 1995, carries out several activities in the tradition of its earlier activities: the general programs focus on the last five thousand years, selecting interesting and important topics, while the work of the AEC is mainly directed in three directions. An important objective is (1) the cultural transmission and dissemination of knowledge about ancient Egyptian culture through lectures and public meetings for interested adults, also in the framework of the Hungexpo. We also organise (2) artistic and handicraft activities, workshops accompanied by discussions on various topics with children, launching every year a fine arts competition (drawing/painting), the results of which will be exhibited for the third time in January 2023 in the Deák 17 Children’s and Youth Art Gallery of the Budapest History Museum; and (3) following scientific and scholarly research into the use of ancient objects, human and animal remains – including an international event of the Nephthys Project in 2022 – and medical history, concentrated on phytotherapy and surgery.

As far as our material at the conference is concerned, we present here as a starting point our research focused primarily on the use of plants in surgery, if only because several members of the group are doctors from the Department of Surgical Research and Techniques at the Faculty of Medicine in Semmelweis University, Budapest. The first scientific results of this new direction are published of today's surgical tools and materials. Thus our conference papers focus on the ancient Egyptian surgery from the point of view of the application of plants in these volumes, but research is also being carried out in other areas. Firstly we present research in the direction that is mainly focused on comparative analysis, directed towards the ancestors surgical kit, the plant materials used for wound care and the general knowledge of ancient Egyptian surgeons, with a view to the surgical culture of other peoples and periods or the use of pharmacognostic knowledge. We have also considered it essential to investigate into possible reasons for the use of plants, which may allow us to consider modern phytotherapeutic applications.

Two other areas of our phytotherapy research are also represented in these volumes. The origin and treatment of various diseases throughout the world, and especially in ancient Egypt, is also an interesting topic. In this direction, we have chosen to focus one disease in particular. Diabetes is one of the most widespread diseases of our time, and we have chosen to study its ancient treatment methods. In this case, as in the case of surgery, we have compared several cultures to find out the ancient knowledge and problem-solving methods, and have pointed out herbs that are officially used in the world, or in Hungary.

Another problem of our time, seemingly far removed from the history of medicine, is the conservation and preservation of biodiversity, which is affected not only by climate change and other natural factors, but also by human activity. This phenomenon can be traced back even to ancient Egypt, although the process has accelerated in the last hundred years. One of our topics in this respect is presented here, showing how an ancient curiosity herb has become a plant of large-scale production in the 21st century, and saving this way the species from extinction.

A new direction of the group is the study of the history of Hungarian phytotherapy in partnership with the Semmelweis Museum for Medical History. We have just taken the first steps in this direction, but we can already say that the classical Roman authors, and the ancient Egyptian knowledge they transmitted also played an important role in official medical practice and influenced folk medicine in our country. It seems that the herbaria published in Hungarian language played a key role in this process.

The interweaving of contemporary and historical issues characterizes many of the articles in the volumes. At the same time, mutual influences, shifts of emphasis and reinterpretations within the ancient world, or elements of later historical periods that reach into the past or present, play a prominent role. In this field, it is essential to collect and examine the sources from a new perspective in order to obtain a clearer picture of certain details of the past. Historical, artistic, literary, religious, economic, museological, pharmaceutical, phytotherapeutic, ethnobotanical or even chemical points of view appear in individual articles. It has been proven that the ingredients listed in many of the ancient Egyptian recipes studied so far can still be used as effective medicines today.

This volume contains 16 contributions on the role of drug use in different periods. There are chapters on the reconstruction of some ancient Egyptian remedies, on the ancient method prescribed for the preparation of antjw ointment, or on the preparation and action of kyphi, and pelargonium, traced through biochemical and experimental research; Others are devoted to the materia medica used in Hungary over the centuries, or to the comparison of contemporary Egyptian folk medicine and pharaonic materia medica in the field of gynaecology; another is devoted to studies on the possible identification of magical Egyptian plant names with a dominant connection to the moon, or to the ritual and non-ritual use of some plant substances with religious names in Egypt. Others relate to the popular treatment of diseases such as tuberculosis and cholera in Hungary, or which edible plants have been identified in Coptic medical therapies. Sedative plants are also featured in the current volume, and a plant closely associated with a butterfly is discussed. Another article focuses on the pomegranate, with its many meanings as a symbol of fertility and female power. Yet another focuses on the worldwide surgical use of plants, while others discuss the balance between practical and religious beliefs in the use of medicinal plants. The pop-up exhibition for the conference is briefly introduced, hinting at the museological aspect of medical history.

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**“THE WOUND OF THE LUNG IS HEALING
VERY DIFFICULT ...”
HERBAL EXPERIMENTS FOR THE TREATMENT OF TB
AND ALLEVIATING ITS SYMPTOMS**

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1. ABSTRACT

Until the 19th century tuberculosis was a “latent” disease, as its symptoms could not be clearly distinguished from other lung diseases. Until the discovery of the causative agent in 1882, even the contagiousness of the disease was uncertain, so for centuries, the treatment of TB was limited to alleviating the symptoms. A rich repository of herbs was available to relieve the fever, shortness of breath, cough as well as the symptoms and the pain of hemoptysis. Later the complaints were tried to be treated with the help of medicines prepared by using herbal ingredients. Due to the nature of the disease, smoking and inhalation were often used methods too. In my article I would like to review some of the medicinal plants that have been prescribed to alleviate the symptoms of TB and have provided relief and perhaps cure for it.

KEYWORDS: TB / tuberculosis, lungs, folk medicine, pharmaceutical trial

1. INTRODUCTION

Tuberculosis is a disease that has been with us for thousands of years, yet we had to wait until the end of the 19th century for a unified, unequivocal diagnosis to develop. This was the case despite the fact that Hippocrates (460-377 BC) had already described some of the symptoms of the disease. Only Robert Koch's (1843-1910) discovery in 1882 proved beyond any doubt that tuberculosis is indeed an infectious disease that should be prevented and treated accordingly.

All our organs can become infected with tuberculosis but the one that attacks the lungs is the most contagious form of the disease. It begins with mild symptoms: loss of appetite, fever, fatigue, night sweats, pallor are the signs of the presence of the disease. How unaware people were of the symptoms of the disease is also indicated by the fact, that at the turn of the 18th-19th centuries these symptoms were not even considered signs of any illness, they

were actually thought of as a form of artistic hypersensitivity and fashion was created from the first symptoms of the disease. However it was not difficult to be “fashionable” around this time because tuberculosis was already raging like an epidemic in the western part of Europe. It only arrived to us epidemically much later, in the second half of the 19th century, but then tuberculosis soon became an endemic.

As the disease worsened more serious symptoms appeared: it tormented the patients with high fever, back pain, cough, sputum, which later turned into bloody sputum and, additionally with difficult breathing. These are very serious symptoms and, in the past, the disease resulted in a very high proportion in death. During the 19th century, the symptoms were tried to be alleviated by improving the patients’ diet and using high-altitude fresh air cures. In the first half of the 20th century the treatment of pneumothorax was also widespread, however its truly effective cure was only developed in the middle of the 20th century with the discovery of Streptomycin. Prevention was made possible by the introduction of the BCG vaccine.

Thus, the 20th century marked a successful turning point in the treatment of TB. Until then, however, over the course of many millennia, it was only possible to alleviate the symptoms of the disease. Numerous medicinal plants were known and with their help it was possible to relieve coughs, spitting up blood, fever and pain. In addition to this, the antiseptic and anti-inflammatory effects of some herbs have also been successfully used.

2. SOME EXAMPLES OF MEDICAL PHYTOTHERAPY FROM THE PAST

In the classical antiquity, besides the good and adequate nutrition, also appeared a therapy based on inhaling the smoke and vapors of various plants and oils to alleviate the symptoms of TB.

The Roman naturalist Caius Plinius Secundus (23/24-79 AD) for example recommended the moderate inhalation of smoke for his patients with TB symptoms.¹

His peer, Pedanius Dioscorides (c. 40–90 AD) the famous military doctor, pharmacist and botanist summarized his experiences and knowledge about medicinal plants and their effects in his work called *Materia Medica*. His work, which described roughly 600 medicinal plants, later had a great impact on European medicine. Dioscorides believed that “*warming medicinal preparations*” should be given to patients and he also recommended the use of animal fats.

The direction of the effect between professional and folk medicine in the past is now often undetectable: i.e. it is not possible to know whether the use of a particular medicinal plant has moved from the circle of popular

1 FRITH 2014, 30.

medication to professional medicine or vice versa. There are examples of both directions, known from stories that could be reconstructed. In any case, during the 17th-18th centuries, due to the advancement of chemistry and pharmaceutical knowledge, the scientific exploration and systematization of the active ingredients of the plants began.

In his *Herbarium* published in 1578, Péter Méliusz Juhász (1532-1572), who established his knowledge in Wittemberg, also lists the herbs that cure the various symptoms of tuberculosis and other diseases of the respiratory organs. Among others, he mentions *Veronica officinalis*, which according to Méliusz, can alleviate the symptoms of the respiratory system when boiled in wine or prepared with water. “If you boil this Veronica grass in wine [...] it cures the putrefaction of the lung. If you take its water, and drink it often, [...] it cleanses the blood, expels slimy, gooey and ugly mucus, and initiates difficult urination...”² he writes in his Herbarium. According to Méliusz too, the white horehound (*Marrubium vulgare*) helps loosen the catarrh and it also has a cough-relieving effect. “If you boil the white horehound in honey water or take its juice, and you drink it often, it cures suffocation, catarrh, internal scabies and putrefaction: it cleans the liver, spleen, breast, lungs, if you boil it in honey water and drink it often.”³ – advised Péter Méliusz Juhász. He writes similarly about the hyssop too, which if boiled in wine with honey and figs and consumed as tea, relieves catarrh. Catarrh, strong cough, loss of appetite, bleeding are all symptoms that could even appear as symptoms of tuberculosis and on the pages of the herbaria of the time you can find the herbs that could alleviate these complaints one after the other.

One of the outstanding works of the 17th century, which is a milestone of Hungarian medical literature, is the *Pax corporis* (1690) written by Ferenc Pápai Páriz (1649-1716). It was intended for the benefit of masters and mistresses with domestic servants and for the poor⁴ by the author because there were not always learned doctors nearby, who could have cured the sick. In his foreword he emphasized the fact, that in his work he listed medicinal herbs and plants that readers could easily access in their own households and in their immediate environment.

Ferenc Pápai Páriz dedicated a separate chapter to phthisis, or „dry disease”, i.e. tuberculosis. He recommends teas and herbal mixtures for the various symptoms of TB, inflammation, spittle of blood, and pays special attention to dyspnea. He emphasizes that the treatment must be started as soon as possible because the disease is very difficult to cure, even if some improvement can be achieved with medicines, their effect is quickly destroyed

2 MÉLIUSZ 1578, folio 39.

3 MÉLIUSZ 1578, folio 101 and 152.

4 E.g. PÁPAI PÁRIZ 1747, last page in preface.

by the constant catarrh. He also emphasizes that purging – which was a very popular healing procedure at that time – should be specifically avoided with these patients. Pápai Páriz, in addition to milk and honey-based food, stresses hyssop (*Hyssopus officinalis*) among the healing agents, if “he breathes hard and coughs: get hold of either hyssop or coltsfoot [*Tussilago farfara*], or liquorice [*Glycyrrhiza glabra*] syrup and lick it off,”⁵ he writes. To relieve the same symptoms, he also recommends ivy leaf, the squeezed juice of which should be boiled to a thick consistency with two parts of cane honey and then consumed.

The author also writes a recipe to alleviate the symptoms of the „dry disease”, the ingredients of which are more difficult to obtain. “*The flower of stinkstone or finely crushed and sifted stinkstone and finely crushed frankincense, four money weights each; cave the middle of a beautiful apple and put them in, cook it like that and eat it with cane honey for an empty stomach.*”⁶ He also considers almonds and the seeds of melons as well as pumpkin seeds to be effective remedies. In addition to frankincense, he also mentions myrrh and mastic (the resin of the pistachio tree), as medicinal agents that can be purchased at the pharmacy. They must be ground into fine powder and thrown on the fire. The patient’s apartment must be fumigated with this fuming substance and the patient must inhale this smoke too. The antiseptic effect of the above-mentioned plants was utilized this way.

It is striking at first glance that Pápai Páriz does not give exact proportions, he does not use exact measures and he justifies this in the preface of his book. He writes specifically for lay users in this book of his, which was prompted to be written by the fact that no work of this kind had been published in Hungarian language before. “*I didn’t want to try to instruct the scholars here but rather the masters and mistresses with domestic servants and the inexpert poor, who do not have an intelligent doctor at their disposal, especially in the villages, where the sick livestock finds help sooner than the sick man*”⁷ – writes Pápai. At the same time he also explained that he tried to list a variety of cures for every disease which is easily accessible, so in case one cannot be found then hopefully another one will be.

3. FOLK PHYTOTHERAPY FOR TUBERCULOSIS

Ferenc Pápai Páriz must have been very familiar with the practical and theoretical background of folk medication, at least this can be inferred from the way he addressed the everyday, occasional healers and the way he introduced the healing agents to them, since folk medicine works in a similar way.

Because folk medicine could not cure TB only alleviate the symptoms,

5 PÁPAI PÁRIZ 1747, 227.

6 PÁPAI PÁRIZ 1747, 127.

7 PÁPAI PÁRIZ 1747, last page in preface.

therefore different procedures were developed for the treatment of the patients. As Dr. Anna Czimmer put it in one of her studies, “no disease has such an established, methodical folk treatment as tuberculosis. And since there is no specific medicine for it, even more remedies exist that people try.”⁸ In 1944, when folk medicine still had a great influence on people’s daily lives, the doctor saw two reasons as to why patients came to them late. Partly because initially they always tried home remedies to treat milder symptoms. In fact, this is the source of the second reason, which is the lack of trust in the doctor’s work, because when patients came to him with an already advanced disease, he usually had to admit his inability to help them with it.

The so-called quack doctors, who could be distinguished from folk healers by the fact that they asked money for their science, also hindered the timely medical care of lung patients. For that very reason, the specialists of the time felt like they had to put the gloves on and increase the fight against them. Mistreatments not only caused damage to the mistreated individual, but were also very destructive to the community and society as a whole. As a pulmonologist wrote, “the biggest crime of quackery – not to mention the intentional misleading of the gullible masses – lies primarily in distracting patients from medical treatment by misleading the credulous patient, preventing the initiation of medication, robbing the patient of valuable time when their illness probably could have been helped, it causes serious damage to their health and robs them unscrupulously too.”⁹

In her thesis published in 1944 Dr. Anna Czimmer, an assistant professor at the Institute of Pharmacy of the University of Debrecen, revealed the entire system of prescriptions, lifestyle, dietary requirements, superstitions and medicines concerning tuberculosis in Hungarian folk medicine. She found that many of the herbs used for treating coughs are also part of the medicinal stock. The common lungwort (*Pulmonaria officinalis*) can be found in almost every tea mixture. Even its name, lungwort carries the similarity with the lungs and it has been used as a treatment for various diseases of the chest since the Middle Ages. There are silver spots on its leaves, which is why it is believed to be similar to a lung and hence its name. It is widespread throughout Europe and approx. a 25-30 cm tall plant; its flowers are red which change to purple over time. The plant’s leaves near the base of its stem are picked in August and consumed as tea together with its flowers. It is rich in substances such as saponin, various tanning agents and silica, which have an effect of loosening the mucus. These do not only dissolve mucus but also act as expectorants and cough suppressants and even more so, it has also been observed that the plant has a bactericidal effect. It was a significant herb for patients suffering from pulmonary tuberculosis in the past.

8 CZIMMER 1944, 208.

9 FÖLDES 1943, 99.



Pulmonaria officinalis in THOMÉ III. and *Salvia officinalis* in KOEHLER 1887.

Another characteristic herb is the sage or *Salvia officinalis*. The infusion of its leaves excellently alleviated most of the main symptoms of tuberculosis due to its volatile oil and tanning content, thus in addition to its antibacterial effect it was also used to stop bleeding. It was also known as an antipyretic, expectorant and anti-inflammatory agent. It is one of the most versatile herbs, which is why in the antiquity it was considered the herb of immortality. Its Latin name comes from the adjective *salveo*, which means “to be well / healthy” or “to save”. In Christianity it was considered to be the plant of Mary, as according to a legend it hid the child Jesus and his mother; thus a divine healing power resides in it. The herbal importance of the plant is clearly shown by the fact, that in the 17th century an entire book was devoted to the description of this single herb. For healing, the sage leaves are used in the form of tea. Its versatility is due to its rich content of active ingredients. A lot of minerals and vitamins can be found in it, such as magnesium, calcium but it also contains sodium, phosphorus, potassium, zinc, copper, iron, manganese, selenium, as well as vegetable antioxidants, flavonoids, phytohormones, terpenes and tannic acids. It is not native to us in Hungary but it can be cultivated as it also lives in our region.

The hyssop or *Hyssopus officinalis* was considered a sacred plant by the great ancient cultures and soul-cleansing power was attributed to it. It has been used since the ancient times and it was a permanent plant in medieval

herb gardens, as a medicinal plant. In medicine, it was used to cure digestive and respiratory diseases, but its antiseptic effect is not negligible either. It successfully relieves catarrhal symptoms and cough. Its tea and its tincture are made from the hyssop's flowering branches and leaves.

The *Tussilago farfara*, commonly known as coltsfoot is good at treating respiratory diseases, it has an expectorant and a secretion dissolvent effect too. Its flowers and leaves are collected for tea.

The licorice or *Glycyrrhiza glabra* in Latin is an anti-inflammatory, expectorant and secretion dissolvent herb that does not irritate the stomach. It also has a well-known antiviral effect.

In the 19th century, inhalation was among the recommendations to alleviate the symptoms of tuberculosis. One of the popular herbs of this symptom-relieving remedy was the juniper, or *Juniperus*. It is also used as a tea for respiratory diseases to relieve catarrh.

The Wood Avens also known as *Geum urbanum* is a common herb in Europe and also in Asia. It was considered a blessed plant in the Middle Ages because of its versatility. Many diseases were cured with its help. The herb contains many active ingredients, tannins, glycosides and essential oil, its tea was used to reduce fever.

The clove, or *Syzygium aromaticum* in Latin, or *Caryophyllus aromaticus* as it was called earlier, is also a versatile herb that has been used for centuries. It played a major role during epidemics, as the dried bud contains approximately 20% eugenol oil, and this active ingredient has a bactericidal, fungicidal and antiviral effect. Its flavonoid content has an anti-inflammatory effect. The plant also serves as a raw material for many expectorant teas. Its homeland is the Maluku Islands where, according to the legend until the 18th century, those who tried to smuggle it out of the islands were subjected to death.

To facilitate breathing, a cream made out of the essential oil of the camphor tree, i.e. *Cinnamomum camphora* (*Lauraceae*) was used and is still used today, which should be rubbed into the skin of the chest above the lungs. Its fresh leaves or the decoction made from them was suitable for curing the symptoms of tuberculosis.

Two plants that are almost only known in folk medicine are the hart's-tongue fern (*Asplenium scolopendrium*) and the poppy (*Papaver rhoeas*). The former has an expectorant and a diaphoretic effect, while a tea was made from the flowers of the red poppy, which was used together with the consumption of the flowers as a cough suppressant.¹⁰

10 CZIMMER 1944, 209.

4. ACTIVE HERBAL INGREDIENTS IN MODERN MEDICAL THERAPY

Pápai Páriz in his book, written at the end of the 17th century, does not define exact dosages, since the book was compiled for lay folks and for home use, and this was the practice there. In medical circles, the importance of exact dosage and the time limit of usage was already well known at that time. It was also known that in many cases only the amount of the dose or the method of use determined whether the drug would have poisonous or healing effects. As Paracelsus (1493-1541), the founder of iatrochemistry formulated it, “...*allein die Dosis macht, das ein Ding kein Gift ist*”,¹¹ i.e. only the dose determines whether a substance is a poison or not. With the establishment of iatrochemistry, medical chemistry gradually but sharply moves away from folk medicine, despite the fact that the former obtained its active ingredients exclusively naturally for a very long time.

However, at the end of the 19th century and the beginning of the 20th century, with the rise of industrial pharmaceutical production and the economic production of artificially produced active ingredients, the importance of medicinal plants decreased. Alexander Tschirch (1856-1939), however, saw a great potential in the study of herbs and their active ingredients and founded the science of pharmacognosy. Adherents of the science fondly quoted the founder's thoughts that “medical science, once it has spoiled its stomach with artificially produced chemicals, will return to medicinal plants and drugs again, the effectiveness of which is proven by thousands of years of experience; however, the newer application will not be in a rudimentary manner.”¹² Dezső Okolicsányi-Kuthy (1869-1947) also conducted researches in this spirit, who, in addition to the possibilities of surgical therapy, also sought a medicinal way to cure tuberculosis.

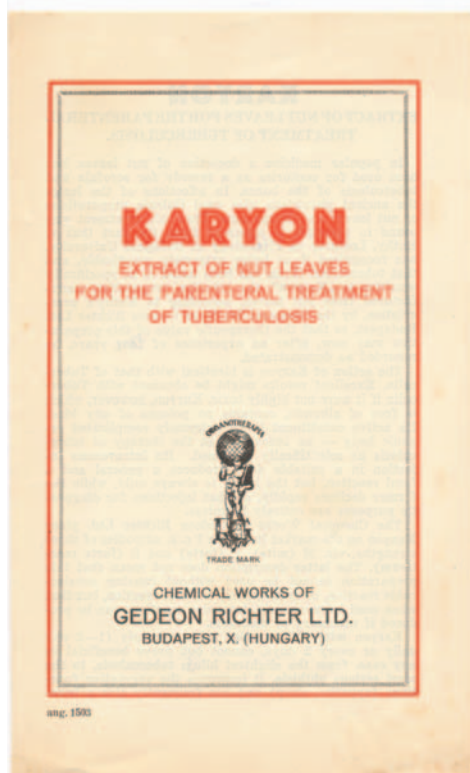
The drug Karyon¹³ was born from such an experiment, which was made by Dezső Okolicsányi-Kuthy from walnut leaves (*Juglans regia*). Okolicsányi-Kuthy had long been concerned with the idea of how, according to tradition, the substance contained in the walnut leaf could be used to help patients, since the tradition attributed an antituberculosis effect to this substance. Not only amongst Hungarians, but also among the Dutch, German, and even Turkish people, the decoction of walnut leaves was used for treating *scrofula* and the so-called “*bone flow disease*”, the latter probably could have meant the bone tuberculosis. The international medical press also covered the beneficial

11 PARACELSUS 1574, 88, row 11, the complete sentence with contemporary spelling: „alle ding sind giff vnd nichts ohn giff / allein die dosis macht das ein ding kein giff ist vñ preparation” (Die dritte Defension von den neuen Recepten”)

12 OKOLICSÁNYI-KUTHY 1929, 138.

13 Nowadays this is the name of an organic fertiliser in agriculture.

effects of walnuts in the 1920s, so the French doctor Henri Leclerc (1870-1955) published an article with the title of „*The walnut*”, in which he discusses the history of walnut leaf therapy. Similarly, doctors in Hungary were also interested in the inherent potential in walnut leaves and in green walnut crops. In 1923, Doctor József Bencze published an article in the weekly newspaper called *Gyógyászat* [Medicine], in which he also covered the folk cure of TB. Then in 1925, in the columns of the same paper, he devoted a study to an overview of the traditional therapy of this disease in the practice of Transdanubia. Bencze also owned the manuscript of a 17th-century medical book, in which the author writes that “*for dry disease and hepatitis, nothing can be better than the pod and leaves of the common green walnut.*”¹⁴ The publication called „*Házi orvos könyvetske*” [Domestic doctor’s book] issued in 1759, which was owned by Mihály Nediliczi Vályi, the family physician of count György Erdődy, discussed again the various ways of using walnut leaves for the treatment of tuberculosis.



The publication of Dezső Okolicsányi-Kuthy

By 1924 Dezső Okolicsányi-Kuthy, in cooperation with the Richter Pharmaceutical Company, developed the anti-tuberculosis drug called Karyon, with the active ingredient extracted from walnut leaves. The name of the medicine comes from *karya*, the Greek name for walnut and was born based on the idea of Zoltán Dalmady (1880-1934). By the end of 1923 and the beginning of 1924, the Richter Pharmaceutical Company managed to enter the market on an experimental basis with Karyon, with strengths of mite, forte and forte reactivum.¹⁵ Dezső Okolicsányi-Kuthy presented the drug in 1924 at the VIIth National Tuberculosis Assembly. Of course, the experiments took several years, and the drug’s effectiveness was also tried to be proven initially by testing it on animals. Dezső Buzna (1898-1976) conducted the animal experiments on domestic rabbits at

14 BENCZE 1925, 502.

15 OKOLICSÁNYI-KUTHY 1929, 138.

the Bacteriological Institute of the Budapest Veterinary College under the guidance of Aladár Aujeszky (1869-1933). The results were reported in the columns of the *Orvosi Hetilap* [Medical Weekly] in 1925 and 1926. After a while, the animal experiments were expanded, and also the procedure developed by Gyula Darányi (1888-1958) was tried, during which experiments 11 rabbits were infected and the development of the disease with the administration of Karyon was observed.¹⁶

After the drug was accepted, the fresh decoction of walnut leaves was initially used both externally and internally to treat patients with pulmonary and bone tuberculosis. In the cases of pulmonary tuberculosis, the decoction could be demonstrated to have an appetite-improving and expectorant effect, and in milder cases of bone tuberculosis the externally applied form of the drug brought a definite improvement. It could also be revealed that Karyon causes such reactions in the body with tubercular disease that can be considered as specific reactions. There was no doubt about the drug's strengthening and appetite-improving effect. Karyon also appeared to be suitable for diagnosing tuberculosis. It was observed that Karyon exerts a similar effect in the body as Tuberculin, but the walnut leaf extract does not cause such an intense reaction. Although Karyon also caused a febrile reaction in patients, but it passed without a trace, almost within hours. Dezső Okolicsányi-Kuthy in the columns of the *Gyógyászat* collected ten years of experience using Karyon and wrote the following about the compound medicine he constructed: "all things considered, after 10 years of experience we believe that with Karyon we can provide a valuable, simple and harmless aid for the treatment of tuberculosis. To our comrades."¹⁷

In the prevention and treatment of TB, educating people, improving their social conditions, making the BCG vaccine mandatory and the discovery of Streptomycin, an effective drug against the TB bacteria, naturally brought about the reassuring and effective solution.

The discovery of the vaccine was the real breakthrough in prevention, but its path was not easy. Albert Calmette (1863-1933) and his colleague Camille Guerin (1872-1961) developed the BCG vaccine. While Koch experimented with the toxin of killed bacilli, Calmette and Guerin cultivated a bovine-type tuberculosis bacterium on a potato substrate soaked by glycerin beef bile, which does not cause infection but when inoculated, the body becomes resistant to the causative agent of human tuberculosis. Calmette and his colleague originally developed a vaccine that could have been taken orally and its introduction into the body was based on the principle that the mucous membrane of the intestinal wall of newborns is permeable

16 BUZNA 1925, 487.

17 OKOLICSÁNYI-KUTHY 1935, 741.

to bacteria. At an older age, the vaccine could be injected into the skin or under the skin. Naturally, Calmette and his colleagues first experimented on animals, inoculating and observing rabbits, cattle and monkeys before trying the vaccine on humans. The vaccine had to be administered only to healthy, uninfected infants because it could cause a flare-up of the disease in infected individuals. The vaccine, BCG was named after the strain of bacteria on which the vaccine is based, *Bacille calmette guérin*. In 1928, the Expert Committee of the Hygienic Organization of the League of Nations (predecessor organization of the WHO) declared the vaccine harmless and effective. From then on, the introduction of the vaccine could have been unbroken if the fatal vaccination disaster in Lübeck had not occurred. In Lübeck between 1929-33, due to the carelessness of the manufacturer, the BCG vaccine was infected with virulent tuberculosis bacteria as a result of improper storage. Out of the 251 vaccinated newborns, 173 babies got serious infections and 72 of them died. Despite the fact that the forensic investigation proved that the vaccine was not the cause of the deaths and illness of the babies, the case severely damaged the trust in the vaccine and it took decades to restore it.

The vaccine that could also be used on humans was produced by 1921, and with that, people could be vaccinated all over Europe, including in our country. In Hungary, the first oral vaccine was produced in 1923 by József Tomcsik (1898-1964) and his colleagues at the University Institute of Pathology. Regular vaccinations were started in Szeged in 1934 also by the initiative of Tomcsik, but vaccination against tuberculosis only became mandatory in Hungary in 1954.

In the treatment of tuberculosis, the discovery of antibiotics and streptomycin brought the final solution. The microbiologist and chemist Selman Waksman (1888-1972) discovered the first effective drug, streptomycin. This was the first effective antibiotic against tuberculosis. As a microbiologist he was searching for the bactericidal and fungicidal compounds of the microorganisms he studied. He succeeded in discovering Streptomycin in 1943, but the drug was not marketed until 1948. Waksman was awarded the Nobel Prize in Medicine in 1952 for his invention. He was also the person, who introduced the name antibiotic into the nomenclature.

With Streptomycin and its active ingredient, nature also provided an effective answer to the cure of tuberculosis, since the discovered antibacterial agent is nothing more than the natural product of the biosynthesis of the bacterium *Streptomyces griseus*.

BIBLIOGRAPHY

- BENCZE 1925 = Bencze, József, *Diófalevél és paprika a népies gyógyító szokásokban* [Walnut leaves and paprika in folk healing practices]. *Gyógyászat* 21, 1925, 500-503.
- BUZNA 1925 = Buzna, Dezső, A „karyon” nevű új tuberculosis-szerviselkedéséről *állatkísérletekben* [On the behavior of the new tuberculosis agent called „karyon” in animal experiments]. *Orvosi Hetilap* 69, 1925, 486-487.
- CZIMMER 1944 = Czimmer, Anna, *A gümőkór népi gyógyításáról* [On the folk cure for tuberculosis]. *Tuberkulózis Elleni Küzdelem* 8, 1944, 208-212.
- FÖLDES 1943 = Földes, Aladár, *Beszéljünk egyszer a kuruzslásról is* [Let's also talk about quackery]. *Tuberkulózis Elleni Küzdelem* 7, 1943, 99-104.
- FRITH 2014 = Frith, John, History of Tuberculosis. Part one. *Journal of Military and Veterans' Health* 2, 2014, 29-35.
- KÖHLER 1887 = Köhler, Hermann Adolf, *Koehlers Medizinal-Pflanzen in naturgetreuen Abbildungen und kurz erläuterndem Text, Atlas zur Pharmacopoea germanica, austriaca, belgica, danica, helvetica, hungarica, rossica, suecica, Neerlandica, British pharmacopoeia, zum Codex medicamentarius, sowie zur Pharmacopoeia of the United States of America*. vol II. Gera: Untermyhaus 1887.
- MÉLIUS 1578 = Méliusz, Juhász Péter, *Herbárium. Az fáknak, füveknek nevekről, természetekről és hasznairól* [About the names, natures and benefits of trees and grasses]. Kolozsvár: Heltai Gáspárné Nyomdája 1578.
- OKOLICSÁNYI-KUTHY 1929 = Okolicsányi-Kuthy, Dezső, *A Karyon Richter eredete és alkalmazása a tuberculosis terápiájában* [The origin and application of Karyon Richter in the therapy of tuberculosis]. *Tuberculosis* 3-4, 1929, 138-142.
- OKOLICSÁNYI-KUTHY 1935 = Okolicsányi-Kuthy, Dezső, *Hazai tuberculosis-szerünk összehasonlító jellemzése 10 év tapasztalatai alapján* [Comparative analysis of our domestic tuberculosis medicine based on 10 years of experience]. *Gyógyászat* 75, 1935, 739-741.
- PÁPAI PÁRIZ 1747 = Pápai Páriz, Ferenc, *Pax corporis* [Peace of the body]. Kolozsvár: Eiaton 1747.
- PARACELSUS 1574 = Paracelsus, *Labyrinthus und Irrgang der vermeinten Artzet* [Labyrinth and stray of the supposed Doctor]. Basel: Perna Verlag 1574.

