Welcome to a brand new journal dedicated to oncolytic cancer virotherapy!

I think that you will catch our enthusiasm over the recent events when you have read the following pages. Cancer Virotherapy is intended to bridge between science and clinic on one hand and the interested, educated reader on the other.

What is meant by cancer virotherapy today and the benefits it brings along is the first topic, followed by a special interview for Cancer Virotherapy granted by a key opinion leader. The first-ever approved virotherapy, Rigvir, is presented, including efficacy, safety and emotionally illustrated by the personal experience of a patient.

The home of the first virotherapy is Latvia, because this is where Rigvir was born. The International Virotherapy Center (IVC) brings virotherapy closer to the patient, wherever he or she lives. Some of the services offered as well as the professional portraits of two virotherapist-oncologist specialists are given, as well as some of the most frequently asked questions about virotherapy.

One of the major virotherapy events in 2015 is the granting of a marketing approval for Rigvir virotherapy in Georgia. Another major event was the inclusion of Rigvir virotherapy in the Latvian national guidelines for skin cancer and melanoma.

The inspiring visit to the IVC by Ty Bollinger and his team and the shortly expected virotherapy approval by the FDA in the USA are described.

The impressions from a couple of recent conferences are given in keywords and pictures, as well as an invitation to meet up with us from the IVC team at some upcoming conferences.

We pay honour to Aina Mucenieks, the lady who first brought virotherapy from idea to approval with regulatory authorities. Some insights in the development of Rigvir are told by one of the physicians that first prescribed Rigvir to patients, and as words of remembrance of one of the scientists that was involved in the development of Rigvir.

Last but not least, some upcoming events, and a competition, where you - dear Readers - are invited to share your views on virotherapy in an essay competition.

For details, please see the following pages. If you have any comments or questions, please do not hesitate to contact me.

Happy reading!

Pēteris Alberts
PhD, Assoc. Prof., Dr. Med. h.c.,
Head & CEO IVC

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On the front cover: Melanoma cell surrounded by lymphocytes during Rigvir therapy. Light microscopy.

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All you need to know about virotherapy

Oncolytic virotherapy is cancer treatment using a virus that has the potential to halt the uncontrolled growth or even destroy cancer cells. Although the term virotherapy may not have been around too long, the phenomenon itself has. The Catholic patron for cancer patients is called St. Peregrine (1265-1345). The story tells that he had a huge ulcerative growth on his leg that exposed the bone and had become severely infected. Before the planned amputation of the leg he spent the night praying in a chapel. When he woke up the leg had healed completely. Today we cannot be sure that this ulcerative growth was really cancer. However, if it was cancer, we cannot rule out the possibility that the healing was the result of an oncolytic virus.

Later, much later, by the end of the 19th century cancer curing properties were observed in bacteria. Tumours of patients that caught an infection were observed to stabilize or shrink. Since then virotherapy research has been going on with varying intensity.

Oncolytic viruses selectively destroy cancer cells

The positive observations prompted the preclinical testing of several viruses. In the early 1950es a few viruses were even tested in relatively small clinical trials. Several cancer patients showed improvement. However, the improvement was rather short-lasting and the pathogenicity of the viruses could not be controlled. In these studies there was no real effect on the survival of the cancer patients.

The earliest scientific publication with the word “virotherapy” in the title or abstract that can today be found in PubMed dates from 1960. This is the time when the screening of viruses in preclinical models of cancer was started that led to the development of Rigvir. Several decades later the interest in virotherapy increased once again. A listing reached close to 100 recent and ongoing virotherapy clinical trials run by industry and well known universities and academia. The tested viruses include Herpes Simplex as well as polo virus. The therapeutic areas include melanoma, glioma, colorectal and prostate cancer.

There are three main types of virotherapy: active, passive and indirect. Oncolytic virotherapy is a specific active immunotherapy. There is a slight overlap, since oncolytic viruses are often also immunomodulators, which constitute the non-specific part of active immunotherapy. In addition, oncolytic viruses are oncotropic, selectively targeting cancers cells.

An oncotropic and oncolytic virus has dual actions: first it is oncolytic, and second, it is an immunomodulator that activates the immune system.

Safety and side effects of any treatment are always important. The level of side effect experienced by any treatment depends on the selectivity for the intended effect compared with any side effect of the medicine. Selectivity is translated into the safety margin. The selectivity of an oncotropic and oncolytic virus for cancer cells versus healthy cells has been determined to be up to 10 000 fold. This suggests quite a therapeutic range. For comparison, commonly used drugs such as salicylates, like aspirin, have a suggested therapeutic range below 10.

Virotherapy targets cancer cells, like radiotherapy and chemotherapy. Virotherapy, however, has several advantages. Virotherapy is selective for malignant cells without harming healthy cells. Virotherapy has two modes of action. In addition to being an oncolytic cancer treatment it also activates the immune system. Virotherapy is very important for the treatment of tumours that are insensitive to radiotherapy and chemotherapy, such as melanoma.

Virotherapy can be combined with other treatments such as surgery and under certain conditions with radiotherapy and chemotherapy. Virotherapy may reduce the immunosuppressive effect of other treatments. The first oncolytic virus approved and registered in the world is Rigvir.

Peters Alberts, Ph.D
Kaspars Losins, MD
Virotherapy has proven to be a perspective cancer treatment

After having read the recent paper on Rigvir in Melanoma Research I am delighted to see that oncolytic virotherapy thanks to Rigvir has finally been introduced in clinical practice. Virotherapy has proven to be a perspective cancer treatment that gives new tools to physicians and patients new hope. I wish the International Virotherapy Center every success in the development of oncolytic virotherapy in their efforts to help patients from all over the world. I greet the new journal Cancer Virotherapy that will be another step forward for oncology.

I am pleased to note that virotherapy with Rigvir, as a front-line therapy of melanoma recently has been approved in Georgia

Melanoma has long been considered a promising target for immunotherapy. Oncolytic virus therapy can cause tumor cell destruction and generate a greater immune response against the cancer.

I am pleased to note that virotherapy with Rigvir, as a front-line therapy of melanoma recently has been approved in Georgia, this certainly adds to the tool-box of our oncologists. I would like to extend my congratulations to the new journal Cancer Virotherapy.

Prof. Ivars Kalviņš
First line cancer treatment

Here I have a little vial with Rigvir. It contains the virus and almost nothing else except for normal saline for injection. This means that by administration of this, the body is not exposed to anything else, no additives, no toxic substances, only the live virus that upon entry in the body fluids starts searching for tumour cells. Tumour cells that the virus eventually infects and kills.

Considering the mode of action of Rigvir and other oncolytic viruses, it is clear that when a patient with a sensitive tumour type has come to the oncologist, the oncologist's first-choice treatment should be this biological, natural killer, the virus. Because we know that if Rigvir will not be effective for a certain tumour, and this will be seen very quickly, then there will be no harm done by Rigvir. However, if the tumour is sensitive to Rigvir then the chemotherapist will be able to see, to his or her great joy, that the tumour is reduced in size and that metastases disappear. In this case, using Rigvir, we can hope that in the majority of cases the malignant cells in the periphery will be found and destroyed and will not become new and large metastases.

Rigvir has been used for at least 10 years in the clinical setting in many, many patients, and practically no significant side effects have been observed. This suggests that Rigvir is currently definitely the safest cancer treatment in the world.

Virotherapy will be developed very quickly. We can predict that it will not eradicate chemotherapy as such, because there are cases where it is important to destroy the large mass of the primary tumour. Having done that, we will need to deal with the metastases, which you cannot remove with surgery, since they cannot be seen or found, but that can be destroyed by the virus.

Only the live virus in the vial

I think that traditional cancer treatment methods such as surgery, radiotherapy and chemotherapy will be used in combination with so-called targeted chemotherapy and biological methods, among which oncolytic virotherapy will form the basis.
Rigvīr

Safe and effective cancer therapy

Rigvīr is a cancer medicine with a unique mode of action. Rigvīr is an oncolytic virus that is neither pathogenic nor genetically modified, and has proven clinical effect with little or no side effects. Currently Rigvīr is approved in Latvia and Georgia.

Rigvīr at a glance

Rigvīr is the first approved oncolytic virus in the world. Rigvīr was first registered in Latvia in 2004 for treatment of cutaneous melanoma.

Rigvīr was developed in laboratories and clinics in Riga, Latvia. The start of the story is quite surprising and also very logical. During the development of a polio vaccine after the Second World War several viruses were isolated from the gastrointestinal tract of healthy children in order to monitor the effect of the vaccine on the natural flora.

By the time when that project was finalized the freezer was full of isolated virus samples. They were made very good use of. These viruses formed the backbone of the more than 70 viruses that were screened in models of cancer. The ECHO-7 virus was selected and adapted to human melanoma cells. Rigvīr had been born. Naturally, it is all natural, and not in any way genetically modified.

After the preclinical testing, the Rigvīr clinical studies were started in 1968. Safety studies were performed first. Most enrolled patients had late stages of cancer (e.g. stomach, colon).

The safety studies were followed by efficacy studies. Later, as the number of participating clinics increased, the studies eventually became both multicentre and multinational.

Rigvīr is approved for treatment of melanoma. In practice, Rigvīr has been used in the treatment of several cancers, including cancers of the gastrointestinal tract (stomach, colon, rectum, pancreas), urogenital cancers (urinary bladder, kidney, prostate, uterus), and other (breast, lung, and several sarcomas).

In order to optimize the effect, schedules for regional administration of Rigvīr have been developed.

Today Rigvīr is included in the national guidelines for skin cancer and melanoma in Latvia as well as reimbursable for melanoma patients. Consequently, three quarters of the melanoma patients receive Rigvīr treatment.

The effect of Rigvīr on cell viability compared with control on isolated melanoma cells in culture at different times. FM-9 cells were from Public Health England. Light microscope. Gimza stain. Scale represents 100 μm. Time of observation 24h, and 48h.

Safety

The most obvious side effect to look for in a virus is its own pathogenicity. This, however, does not apply to Rigvīr, because Rigvīr is not pathogenic and does not cause any disease in itself. In fact, most ECHO virus infections are without any symptoms.

The safety of Rigvīr was tested in clinical trials before approval and registration of the marketing authorization. Almost a thousand patients took part in the safety studies. The most common side effects or adverse events of Rigvīr are subfebrile temperature and pain in the tumour area. Discontinuation of Rigvīr treatment due to side effects has been observed rarely, if at all.

The safety profile for Rigvīr is remarkable, since often the acceptance of side effects correlates with the severity of the disease treated.

Preclinical effect

The preclinical effect of Rigvīr was originally tested quite some time ago. Recently, the effect was looked at using human melanoma FM-9 cells in culture.

The effect of Rigvīr on cell viability compared with control on isolated melanoma cells in culture at different times. FM-9 cells were from Public Health England. Light microscope. Phase contrast. Scale represents 300 μm. Time of observation: 24h and 48h, respectively. Live cells are elongated, while the picture in the lower right corner (Rigvīr 24h) shows debris of dead cells.
Efficacy

The efficacy of Rigvir has been tested in over 900 melanoma patients before approval and registration of the marketing authorization. While regulatory authorities increasingly request survival results for oncology drugs, by the turn of this millennium actually only a minority of drug approvals were based on survival data. It is therefore interesting that already in the earliest clinical studies the effect of Rigvir was determined on the survival. Most of the studies reported 3-year survival results, and some reported 5-year survival. It was found that compared with surgery only, Rigvir significantly increases the survival in melanoma patients after surgical removal of the primary tumour.


Statistical difference between groups for progression-free survival: P < 0.001, for sex: not significant. (Fig. 5 from [1] with permission).

Post-marketing, the effect of Rigvir on progression-free survival in stage II melanoma patients has been studied in a retrospective study. Since current guidelines give few recommendations for treatment of stage I-II melanoma, the control group was treated by observation according to the guidelines. The results show that the risk for disease progression is decreased by a factor of 6.67 by Rigvir treatment compared to observation [1].

Recently, the effect of Rigvir on overall survival in stage IIB to stage IIIC melanoma patients was described in a retrospective study published by Melanoma Research. The results show that the melanoma patients that were treated with Rigvir had a 4.39–6.57-fold lower mortality than those under observation [2]. This difference is both statistically and clinically significant. For example, when the results for stage IIB and IIIC melanoma patients were analysed together, the survival after 5 years was about 55% when treated by observation and about 50% when treated with Rigvir. It was concluded, that Rigvir significantly prolongs survival in early stage melanoma patients without any side effect.

Taken together these two post-marketing studies suggest that a 6-fold increase by Rigvir in progression-free survival predicts an effect of similar magnitude on the overall survival in stage II melanoma patients.

Progression (in red) in individual stage II melanoma patients. Progression is observed in 6 of 44 of Rigvir treated patients, and in 21 of 36 of the patients under observation. (Fig. 6 and Fig. 7 from [1] with permission).

Cox regression analysis plots of survival of melanoma patients following surgery. P in the statistical significance of the difference between the Rigvir (---) group and the observation according to current guidelines (observation) group (--). After adjustment for age, sex and sub-stage. (Fig. 1 from [2] with permission).

Selected references; a full list is available upon request


PilēTRA Alberts, PhD
Rigvir from the patient’s point of view

Kristina Jakovenko, Ukraine, was diagnosed melanoma stage IV. She had surgery and received chemotherapy that she could not tolerate. Now she is treated with Rigvir.

C.V.: How did the situation with treatment develop? When did you start treatment with Rigvir?

K.J.: The oncologist offered palliative chemotherapy that started in January 2013 but on the 5th week, I got worse; I had high fever for two weeks, and no anti-fever drugs helped. I was very weak and exhausted. I had to stay in bed for several days with hallucinations and no appetite. The disease progressed rapidly. I could feel how my groins started to swell. Due to chemotherapy intolerance, the oncologist stopped it and told me that there was no other option for me. They found liver metastasis but could not offer any treatment. At the time when I received chemotherapy, I had still not been told my diagnosis.

I was actively searching for treatment options on the internet and found an article about Rigvir. I contacted the IVC and was quickly there. In February 2013, I received my first Rigvir administration. I improved rapidly. I could sleep better, started to become stronger physically and my appetite was improving.

C.V.: For how long have you received Rigvir treatment and how did you feel; did you have any side effects?

K.J.: I started to feel better already after the first administration. After a few weeks, my subcutaneous metastases started to decrease in size and my movements became easier because the swollen lymph nodes in my groins disappeared. The only thing that has stayed throughout the time is my back pain but it has also become less severe. I can move around and be active. The treatment with Rigvir is still ongoing; I receive it according to schedule, I have never cancelled any administration.

C.V.: Please tell us about your symptoms.

K.J.: In August 2010, I noticed a mole on my back that began to increase in size after a vacation in Crimea. It was very hot and sunny and maybe I was not protecting myself enough from the sun. During several days, the mole changed its color from brown to dark brown and a new spot appeared near the mole. I was just observing the changes but did not go to the doctor. In late spring 2 years later, I got the mole traumatized twice in public transport. The mole started to increase in size again, its boundaries started to be blurred. Then I decided to go to see an oncologist and have it examined.

C.V.: What happened after the appointment with the oncologist?

K.J.: All kind of tests were done and I was quickly sent to the surgeon to remove the mole. After a few days my inguinal lymph nodes started to swell. My mother was told that I had stage IV melanoma, that I could expect to live 6 to 12 months, and that she should not tell me about the diagnosis.

I started to feel better already after the first administration
Virotherapy availability

Today cancer virotherapy is fully available in two countries, Latvia and Georgia, which have approved and registered Rigvir virotherapy.

International Virotherapy Center (IVC) was established in 2008 by Rigvir discoverer professor Aina Muceniecka and leading Latvian oncologists, immunologists and scientists. The tasks of the IVC are to offer physicians training and certification, to offer medical institutions accreditation, and to provide oncology patients guidance in virotherapy treatment.

Primary tasks of International Virotherapy Center:
- Education and certification of doctors
- Accreditation of clinics
- Coordination of international patient service

The IVC Information Center is created to help patients from around the world find the best cancer treatment for them. The IVC Information Center helps patients by providing answers to questions about virotherapy treatment. If the treatment is planned to take place in Latvia, the IVC Information Center assists in receiving a visa (when necessary), translation, accommodation, and other questions. Full confidentiality is ensured.

IVC partner in medical issues is Latvian Virotherapy Clinic.

Contact the IVC Information Center to find out virotherapy treatment possibilities in your particular case.

Alina Livincova, IVC Information Center
Phone: Valdis Brauns

www.virotherapy.eu

Global virotherapy website www.virotherapy.eu

CANCER VIROThERAPY

New Era in Cancer Treatment
Virotherapy is an effective cancer treatment that uses virotherapy and oncology drugs with the ability to find and destroy malignant cells in the body. Virotherapy is a safe and effective treatment, it improves survival and quality of life of patients.

The goal of virotherapy is to destroy malignant cells and to prevent the spread of cancer. The main objectives of the IVC are training and certification of doctors, accreditation of medical institutions and coordination of international patient services.

Video

Media review

Future is already here

Alina Muceniecka (2019-09-12 19:42:12)

Alina Mucenieka

Professor of virology

Rigvir discoverer

Alina Mucenieka is a professor of virology and a member of the Latvian Academy of Sciences, the International Academy of Sciences, and the European Academy of Oncology. She has been awarded numerous medals and honorary titles for her contributions to cancer research.

Teaching and research at the University of Latvia, she has been involved in the development of virotherapy as a cancer treatment for over 30 years. Her work has led to the discovery of the Rigvir virotherapy, which has been used to treat cancer patients around the world.

www.virotherapy.eu
Latvian Virotherapy Clinic has received international premium class accreditation that allows to offer high level medical and patient services in cancer virotherapy.

Latvian Virotherapy Clinic provides patients with effective and complex cancer treatment with virotherapy, additionally including elements of complementary and integrative medicine. Patients are offered ambulatory or stationary treatment possibilities and consultations with oncologists and immunologists practising virotherapy, as well as nutritionists and various relevant specialty doctors.

To its patients and their accompanying persons, Latvian Virotherapy Clinic delivers excellent patient service, starting with visa invitations, patient welcoming, accommodation, accompanying, and supervision during all of the treatment process, including even recreation events for the persons travelling with patients.

Kaspars Losāns, MD  
Medical Director

“The most important in cancer treatment is an individual approach to the patient and complex understanding of body functioning. Virotherapy is gentle and effective cancer treatment.”

PATIENT SERVICE – YOUR FRIEND AND ALLY

Latvian Virotherapy Clinic offers excellent patient service for all of the treatment time, regardless if the patient is in Latvia or outside it. Every patient is assigned their own patient manager in charge. Patient Service ensures your comfort, safety, confidentiality, welcoming, accommodation, and accompanying. They follow your treatment plan, coordinate communication with doctors, manage administrative and payment questions, help to plan the available visit time in Latvia, organise all matters related to the arrival (visa, transport, hotels), provide you with all the necessary means of communication, and organise your safe trip home after finishing the initial course, continuing to communicate with you during the rest of the treatment up to the next visit. Patient Service will also take care of accommodation and well-being for the persons travelling with you.

We care. We will fight for your life!
This time, we will introduce Vladimirs Sorokins, MD oncologist and surgeon. Vladimirs Sorokins has a more than 20-year experience in the Latvian Oncology Center as well as a leading surgeon at Balvi hospital. Vladimirs Sorokins always impresses with his peace of mind and balance even in the most difficult situations. He realizes that happiness lies in the simplest and yet most complicated thing in the world - health. He does everything in his power to achieve this for his patients. Vladimirs Sorokins says that he has treated patients with virotherapy for several years and is impressed by the unique efficacy and safety that even enables the late stage patients to maintain quality of life and optimism.

Early this year, Linda Brokāne, MD joined the Latvian Virotherapy Clinic team after finishing her education as an oncological chemotherapist. Linda Brokāne received her training at the Latvian Oncology Center. Linda Brokāne prefers using the safe and effective virotherapy in oncology. She stresses the need for non-toxic and activating the body’s own strengths. Linda Brokāne says: “I try to keep an open mind, I am curious and I think that one needs to develop all life both professionally and personally. I have a great desire to help my patients, and always try to find and understand what is the best for everyone.”

The first point of contact for patients asking about Rigvir virotherapy is often one of us at the Patient Service, LVC CV asked Inga Savicka, Head of Latvian Virotherapy Clinic Patient Service to summarize some of the most frequently asked questions.

Where can I receive Rigvir virotherapy treatment?

Virotherapy is an individual treatment, meaning that the assigned Rigvir therapy administration frequency may vary from patient to patient. The first step is for a virotherapy specialist to assess the patient’s complete medical record. If virotherapy can be prescribed, the patient is invited to visit the Virotherapy clinic in Riga for at least 3 days, where all the initial procedures are organised: consultations with specialists, tests, first administrations, and the individual therapy plan are set up. All this done, the patient may return home and continue the treatment under remote supervision.

How is Rigvir administered?

The fact that virotherapy is ambulatory makes it very comfortable in use since Rigvir administration is intramuscular and can be made by a nurse at home.

How long is the treatment?

It is important to understand that virotherapy must be long-term and regular in order to achieve the best results. The total duration is recommended to be at least 3 years, with intervals between administrations gradually increasing.

Are there any counter-indications?

Virotherapy prescription depends on diagnosis and may be counterindicated during infections. If the blood cell count is unsatisfactory and during chemo and / or radiotherapy.

What cancers have you treated?

Rigvir is approved for melanoma treatment. In clinical practice Rigvir is used for the treatment of melanoma, cancers of stomach, colorectum, pancreas, kidney, uterus, bladder, lung, prostate as well as several types of sarcoma.

What is the cost of virotherapy?

Since the virotherapy is individualized, the cost will vary from patient to patient. For complete information on pricing and any other questions on Rigvir virotherapy, please contact us at:

Phone: +371 67 229 522,
E-mail: info@virotherapycenter.com

Fill the form below:

Name, surname
City, country
E-mail for reply
Question
Submit
The physician’s path to virotherapy

Every week oncologists from many different countries visit the IVC in order to familiarize themselves with virotherapy and receive the virotherapist certification. This includes studies of the cancer virotherapy guidelines and their application. The training can last several days.

Delegation of Georgian doctors learn virotherapy in Latvia

Leading Ukrainian and Russian scientists and doctors get certification in Latvia

Specialists, oncologists, who would like to learn more about cancer virotherapy can fill out the electronic form below and apply for virotherapy training; alternatively, please fill in the questionnaire and send it to info@virotherapy.eu

Registration form

1. Name, surname
2. Specialty
3. Years of professional experience
4. Title
5. City, Country
6. Telephone number
7. E-mail address

Spanish doctors get virotherapy certification in Latvia
Georgia became the second country in the world that approved the use of cancer virotherapy with Rigvir for oncology patients. The only registered cancer virotherapy medicine in Georgia so far, Rigvir, was registered in February this year. The first cancer virotherapy conference was held in the Georgian capital Tbilisi already in June. It brought together the majority of Georgian oncologists. Thanks to the participation of the IVC approximately 50 Georgian oncologists received international virotherapist certification.

The fact that virotherapy is now available to oncology patients in Georgia was widely reflected by the media. The major written and TV media reported about Rigvir and the IVC representatives. The Georgian media also interviewed the leading Georgian oncologists, who expressed satisfaction with the arrival of a new therapy in Georgia, which improves the situation for the oncology patients.

"In Georgia, the risk of melanoma and skin cancer is quite high," said Dr. Lali Mekokishvili, Dermatovenerolog, and the President of Georgian Association of Photodermatology and Skin Cancer. "Many people use solariums and it is dangerous in the sun here but people don’t use skin protection creams. At the same time, it is difficult to identify this cancer in its early stages, and it is very difficult to treat with chemotherapy. Therefore, any new medications in this area will save patients. And Rigvir has a really impressive performance in this regard."

By early October, three clinics have achieved full accreditation and therefore can offer virotherapy not only to domestic Georgian patients but also to patients from neighbouring countries, mainly from Armenia, Azerbaijan, Russia, and Turkey.

The first positive feedback has already been received from physicians and patients that no longer need to travel to the distant Latvia, but can receive virotherapy in their home country, which greatly facilitates patient treatment.

By early October, three clinics have achieved full accreditation and therefore can offer virotherapy not only to domestic Georgian patients but also to patients from neighbouring countries, mainly from Armenia, Azerbaijan, Russia, and Turkey.

For the first time in the history of oncology, an oncolytic virus has been included in the national guidelines. This year Rigvir was included in the Latvian national skin cancer and melanoma treatment guidelines of the country of initial registration.

The Latvian guidelines were developed by the Riga Eastern Clinical University Hospital Task Force under the management of Dr. Dace Baltiņa.

The latest Rigvir scientific publication A retrospective clinical Rigvir study is published in the October issue of “Melanoma Research”. The paper was made available on-line 15 July 2015. All previous melanoma treatment guidelines, for example NCCN, ESMO, unfortunately, do not offer any therapy for early stage (IB and IIA) melanoma patients, while stage IIB and IIC patients are only offered three options: observation, interferon therapy or participation in a clinical trial.

The Latvian guidelines were developed by the Riga Eastern Clinical University Hospital Task Force under the management of Dr. Dace Baltiņa.

The latest Rigvir scientific publication A retrospective clinical Rigvir study is published in the October issue of “Melanoma Research”. The paper was made available on-line 15 July 2015.

The study indicates that melanoma patients would significantly benefit from prolonged survival with oncolytic virotherapy treatment. The study revealed that the IIB-IIC stage melanoma patients treated with Rigvir were 4-6 times more likely to survive than those who following the current guidelines for the treatment of melanoma, were only observed.
The Rigvir story


The research on virotherapy under the leadership of the Rigvir inventor Dr. Aina Muceniece began in 1960 at the Latvian Academy of Sciences Institute of Microbiology. Already in the first pre-clinical studies it was found that viruses isolated from the gastrointestinal tract of healthy children are oncolytic. In order to optimize the development of cancer virotherapy the first Cancer Virotherapy laboratory in the world headed by Dr. Muceniece was established in 1965 in the Institute of Microbiology.

Extensive preclinical studies were started to screen the effect and adapt the most potent of the selected viruses. Dr. Muceniece always remembered the first finding: “Surprisingly, one of the viruses the tumour really reacted – it disappeared. Without a trace, as if it had never existed. In fascination, I placed the little hamster in the sun to see with my own eyes that the growth indeed has disappeared. It was an extremely powerful moment of inspiration. Ever since, the belief has been rooted in me that the study of cancer virotherapy has to be continued”. The first clinical studies were started in 1968 of what today is known as the Riga virus, Rigvir.

A tribute to Prof. Aina Muceniece


Science, science with passion, love and devotion. (Aina Muceniece)

When I started using virotherapy

C.V.: Dear Dr. Šapovalova, how and when did you start working with Rigvir?
E.S.: When I finished my residency in 1967, I started working as a surgeon at the Latvian Oncology Center. I saw patients with various types of cancer, including melanoma. I was introduced to Dr. Aina Muceniece at a time when she was already studying oncolytic viruses. After a few years, in 1971, we started treating stage IV cancer patients with Rigvir. Dr. Muceniece evaluated the patient’s immunological status. After the surgery, the patient received virotherapy with Rigvir.

C.V.: How did the patients respond to the treatment?
E.S.: The first thing the patients noticed was the absence of side effects. They were surprised and happy about that. The second thing was that they had increased survival.

C.V.: Which types of cancer did you treat with virotherapy?
E.S.: At first, we treated melanoma but after some time we started to treat other types of cancer. For example, Dr. Muceniece had good results with breast cancer. In a case of inflammatory breast cancer, she administered Rigvir around the breast and the condition improved rapidly.

C.V.: How was working with Dr. Aina Muceniece?
E.S.: Only many years later, I realized what kind of star I had been next to; Dr. Muceniece was humble and kind, always explaining everything. It was very interesting and exciting working with her. Each patient was like a new book written by Dr. Muceniece; she examined every patient very thoroughly, and palpated all lymphatic nodes. My mother was a doctor, I learned much from her, especially the attitude towards the patients. My other wonderful teacher was Dr. Muceniece who also taught me a lot.

C.V.: Thank you Dr. Šapovalova!
E.S.: Thank you.

When interviewed, Dr. Mikēlis Rudzītis, PhD, 16 March 1934 – 11 May 2015

It was planned to interview Dr. Mikēlis Rudzītis in May. Unfortunately on May 11 we bid good-bye to Dr. Mikēlis Rudzītis, physician and scientist, whose creativity from 1963 to 1994 was associated with the cancer virotherapy laboratory and the clinical trials with Rigvir. Parts of the results are summarized in his 1970 thesis on the influence of virotherapy on the immunological reactivity.

The following research focused on Rigvir clinical studies at the Pauls Stradiņš Clinical University Hospital in Riga, Latvia. Dr. Rudzītis analysed the effect of Rigvir both on survival, as well as on immunological and histological parameters, mainly in melanoma and gastrointestinal cancer patients.

Dr. Aina Muceniece appreciated very much the analytical mind, kindness and empathy towards patients, ease of cooperation with colleagues, and the sparkling sense of humour of her dear colleague Dr. Rudzītis.
Recent Events in short...

11 December 2014

23 September 2014

1 June 2015

4 July 2015

26-29 January 2015

During the large healthcare exhibition and congress Arab Health in Dubai the VCS representatives were invited to the residence of one of the UAE leaders, Sheikh Sultan bin Saqr Al Qasimi of the Ras Al Khaimah Emirate. The VCS delegation met with 10 ambassadors and leaders of scientific institutes. The VCS were furthermore invited to a visit of the Dubai Healthcare City.

Banking Executive

This journal is published by investors and bankers from the Middle East. It analyses virotherapy and named Latvia as a world class destination for medical tourism. “Latvia, the Baltic Sea’s gem is a combination of culture, heritage, unspoiled nature beauty and recently unique medical services especially in the field of oncology treatment where it stands second to none.”

“Every year, the number of medical and non-medical tourists in Latvia increases as the country is an excellent place for recuperation and hosts a well-established tradition of health resorts, high-quality doctors and is rich in natural healing resources”, writes Banking Executive.

13 October 2015

The truth about cancer: a global quest

Ty Bollinger is a recognized author, medical researcher, lecturer, radio host and documentary film-maker. For his new documentary series, that will be shown in October 2015 "The Truth About Cancer: A Global Quest" he travelled to International Virotherapy Center located in Riga, Latvia. There he met doctors, scientists, researchers, experts who shared their knowledge and practical experience on virotherapy with Rigvir. Also within the framework of the interviews, Ty talked to cancer survivors from all around the world, who successfully fought cancer with the help of Rigvir.
Upcoming events

27 November 2015

Virotherapy conference

The year of 2015 has been eventful for virotherapy. It is time to look back at the achievements and to outline future directions. The annual virotherapy conference will be held on 27 November at the new National Library of Latvia. The most experienced Latvian immunologists, oncologists and scientists will share their experience, insights and achievements. Virotherapy has never been discussed as intensively as now. Rigvir registration in Georgia, reports on Rigvir in the largest USA integrative oncology conferences, the inclusion of virotherapy in the Latvian national guidelines for skin cancer and melanoma treatment, publication in Melanoma Research. And more.

Looking forward to seeing you at the top of the top of the National Library of Latvia. Upon registration you will receive information on virotherapy. Registration and additional information: info@virotherapy.eu, telephone +371 672 295 99.

28-31 October 2015

11th EADO Congress & 8th World Meeting of Interdisciplinary Melanoma/Skin Cancer Centers in Marseille, France. Rigvir virotherapy will be presented. Please visit our poster.

Virotherapy and the FDA: T-Vect, the new kid on the block?

The oncolytic virus that has reached closest to full approval in the USA is T-Vect (short for talimogene laherparepvec; previously known as Oncovex). It is a genetically engineered herpes simplex 1 virus (HSV-1). On 29 April 2015 T-Vect passed a thrilling vote with 22 to 1 at a combined meeting by the Oncologic Drugs Advisory Committee (ODAC) and the Cellular, Tissue and Gene Therapies Advisory Committee (CTGTAQ) of the FDA. T-Vect has been tested by Amgen in stage III and stage IV melanoma patients. The control group that received granulocyte macrophage colony-stimulating factor (GM-CSF) had a 1.27-fold higher mortality risk than the T-Vect treated patients. When all patients had been followed for at least 3 years, the patients treated with T-Vect had a 4.4-month longer overall survival than those treated with GM-CSF. The most common adverse events of T-Vect were fatigue, chills, pyrexia and nausea. In other words, manifestations typical of a flu-like illness. Herpes simplex virus infections were also more common in the T-Vect treated patients. The FDA approval of T-Vect is expected on 27 October 2015.

January 2016

New virotherapy clinic

A conceptually unique specialized virotherapy and medical service clinic, a centre of excellence, will open in Latvia in January, 2016. The clinic will provide medical, diagnostic and recovery (rehabilitation, recreation) services for cancer patients from Latvia and from abroad. The services will be provided by oncologists, immunologists, nutrition specialists, psychotherapists and recreation specialists.

The clinic will offer modern technological equipment in a health and recreation complex intended to strengthen the general immunity. After evaluation, each patient will receive an individualized treatment and recovery plan that will include virotherapy and holistic approach towards the human body.
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