"Defeating cancer is beyond price"

Newsletter from
the Defence against Cancer Foundation
No. 2, March 2015

Dear friends of the Defence against Cancer Foundation,

The Defence against Cancer Foundation is very pleased to send you this newsletter. It contains information about the immunotherapeutic activities that have been made possible by your donations to the Foundation. Over the past year, we have embarked upon exciting large-scale scientific research in which several Dutch centres are investigating the contribution made by dendritic cell vaccinations to the survival of patients with malignant melanoma.
For the first time, we have managed to draw support from health insurance companies by means of the campaign 'Temporary inclusion in the basic health insurance policy'. As a result, we could start a study on almost 200 patients. This is an extremely important step and a real breakthrough, because we now have the Dutch government and health insurance companies on board!
In this issue, we show you what happens behind the screens in the so-called clean rooms where we prepare the dendritic vaccinations. It is important to realise that this process continues day and night, all through the weekends and even during the Christmas holidays. Alessandra Cambi explains her new project that our Foundation is supporting. Nicoline van Hoogerbrugge and Steve Boudewijns describe the first steps towards the preventive vaccination of families who run the risk of developing a hereditary, early-onset form of bowel cancer. All this is in aid of reaching our dream of preventing cancer. We still have a long way to go, but we have at least set the ball rolling.
Very shortly, they are going to start a new vaccination study on patients with prostate cancer. Harm Westdorp and Winald Gerritsen tell you the details below.
The contributions made by you all as supporters of our cause are essential to our Foundation. We would also like to mention that one of our patients is very busy with several of her own successful campaigns within her aromatherapy company. In short, a great deal of news and background information. Enjoy!

Prof. dr. Carl Figdor, department Tumorimmunologie, Radboudumc

DEFENCE
AGAINST
CANCER
FOUNDATION

A word from the executive committee

One of the executive committee's tasks is to safeguard the goal of the Defence against Cancer Foundation: 'To initiate and promote studies and treatment for defence mechanisms against cancer in the broadest sense and to carry out duties to achieve and facilitate this end.'
In support of this goal, the committee stimulates the procurement of funds for the Defence against Cancer Foundation by means of campaigns, subsidies, donations, gifts, bequests and legacies. They received a total sum of €54,311 in 2014. The proceeds of the capital and, if necessary, part of the capital is used for Foundation activities. The first round of subsidy acquisition was completed successfully in 2014. On the advice of the scientific board (professor T. Wagener, professor N. Hoogerbrugge, professor W. Gerritsen) the following project was approved to receive subsidy: 'Nutritional support during dendritic cell-based anti-tumour immunotherapy combined with platinum chemotherapy: Is there a role for dietary fatty acids?", by Dr Alessandra Cambi. The scientific board members voted unanimously in favour of Dr Cambi's project in view of the rejuvenating effect of omega-3 fatty acids. The project has been granted €50,000 for 2014 and 2015. Dr Cambi will report annually over the progress of the project.

A look behind the scenes in the clean room

Nicole Scharenborg

The cells we use to vaccinate our study patients are cultured in a clean room. The name 'clean room' means exactly what it says: a clean room. Clean rooms are used to keep the risk of contamination as low as possible.

Characteristics of a clean room:

- The air in a clean room is refreshed and filtered continuously by HEPA filters. These finely-meshed filters not only remove dust particles from air that enters the clean room from outside, but also purify the air in the clean room to prevent internal contamination.
- The air pressure in a clean room is higher than that in the surrounding area. It is therefore very difficult for contaminated air to enter a clean room.
- Staff members enter a clean room via an air interlock. They wear special clothing, such as a special hood with a mask, overalls, over-boots and gloves. This clothing prevents them from contaminating the clean room.

Obtaining monocytes

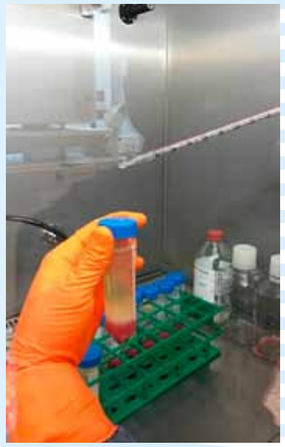
In the clean room, the monocytes obtained from a patient's blood are cultured into dendritic cells in about a week and a half. To separate the monocytes from a patient's blood, we use a procedure called apheresis. The patient has a venepuncture in both arms. Blood is collected from one arm and enters the centrifuge equipment that separates out cells of a certain density. Then the rest of the blood is returned to the patient via the other arm. In this way we can obtain far more of the required cells than by taking blood in the 'normal' manner. However, the patient needs to be connected to the special centrifuge equipment for three to four hours.

From monocytes to dendritic cells

After apheresis, the material from the centrifuge is transferred to the clean room. Via a number of steps, we obtain a population of monocytes that is as pure as possible. This takes four to five hours. Sometimes we have to work extra-long hours, for instance if venepuncture proves difficult in a particular patient and we do not receive the material until late afternoon. The monocytes (about 10 billion, but this varies considerably from one patient to another) are put into culture flasks and placed in an incubator at 370C, with 5% CO2 and high humidity. On the next day, we add growth factors to the culture so that the monocytes can ripen into dendritic cells (DCs). A dendritic cell has dendrites (branched projections) as the name suggests, whereas a monocyte is smooth and round. Another name for dendritic cells is antigen presenting cells: the riper they are, the better they can present foreign proteins to our immune system. To achieve ultimate ripening of the cells, they are transferred to 6-well culture plates on day 3 or 4. This can take several hours. We place one million unripe DCs in each well and we often have about 100 plates per patient in culture. After one or two days, a ripening cocktail is added, which brings the DCs to full ripening.

Harvesting dendritic cells

During harvesting of the ripe DCs (which can easily take half a day) we lose an average of about 50% of the cells. Although



harvesting is generally considered to be the most tedious task in the whole culture process, we buckle down to retrieve as many cells as possible. A huge population of cells means even more work throughout the process, but it is always extremely rewarding to achieve a high yield. We know that it is these cells that are re-administered directly to the patient. That makes it all worthwhile.

My positive experience with dendritic cell vaccination

Pauline Ruts-Houtman

Towards the end of 2011, I noticed that a mole on my left upper arm – it had been there for years – seemed to be starting to change somewhat. My general practitioner (GP) thought it looked suspicious too, so I was referred to a dermatologist. She agreed with my GP and removed the blemish straight after clinic. To my horror, it turned out to be a melanoma.
At the beginning of 2011, another 1 cm of skin was removed from around the scar, according to the standard protocol. As there were no cancer cells present, I did not have to undergo further treatment; just regular check-ups at hospital. That was quite a relief after the initial shock, because I had read somewhere that there is always a chance – albeit a small one – that this is the end of it, even in the case of a melanoma.

Metastases

During the check-up in November 2012, they removed a small superficial bump that was quite close to the original melanoma. Tests showed that it was not an innocent dermatofibroma, but a metastasis from the melanoma. "A melanoma is one thing, but a melanoma that has spread is a different matter altogether. Regrettably, we don't have a tailor-made treatment to hand." This was the clear message from the dermatologist. I realised that from then on, I was in a very precarious situation.
I decided to enrol for a study/experimental treatment at the appropriate hospital in Rotterdam. At least then we would be trying something. To take part, you had to have a special protein (NY-ESO-1 protein), but unfortunately I did not have it. They had already told me that if the protein was absent, they would refer me to the Radboudumc in Nijmegen (only 1 in 3 patients have the protein) where there was a trial on dendritic cell vaccination. Naturally you had to have certain proteins for that too, but 90-95% of patients have them. So in February 2013, I ended up in Nijmegen. To increase the chance of success, I first had to have total limb perfusion, but sadly that was unsuccessful.

Treatment

After the doctors had informed me (verbally and in writing) about what the dendritic cell vaccination trial was all about and I had understood the possible side-effects, I said I would take part. Perhaps I give the impression that I had made a well-considered choice, but the realisation that there was no alternative obviously played an important role in my decision. Luckily the blood tests showed that I was a suitable candidate.

When they told me that I had been randomized to the group to receive a combination of dendritic cell vaccinations and chemotherapy (cisplatin), I was very startled. That was mainly because of my earlier experience (a long time ago) with a course of chemotherapy for breast cancer. Seeing as the doctors told me then that my chance of five-year survival was about 50% because of the risk of metastases, and seeing as I am still here, I drew the conclusion (rightly or wrongly) that the chemotherapy had made all the difference. As a result, I was able to feel positive about starting treatment (including cisplatin) in Nijmegen.

In order to culture the dendritic cells, I had to undergo apheresis. They could not take blood from my arms, so I had to have a so-called central venous line in my groin, which meant that I had to spend a whole day in hospital. Fourteen days later, I had my first actual treatment (DC vaccination and chemotherapy); there were also 14 days between my second and third treatments. Each time, I had to spend a whole day in hospital. One week after the third treatment, they gave me four DC vaccinations in my back and two days later, they took biopsies from those sites and also a biopsy from my arm. The final step six weeks later was to have a chest-abdomen CT scan to see whether the situation was still stable, or in other words, to make sure that there were no metastases in my vital organs, like the lungs, liver and intestines.

Effect

At the time of writing this, 14 January 2015, my consistently good blood test results and good CT scan results meant that I could complete the whole trial, including the maximum of two follow-up treatments included in the study design. The follow-up treatments, which involved the same process as described above, took place at six-monthly intervals. The second and thus last follow-up treatment finished on 3 December 2014 with the biopsies and on 12 January 2015, I had another CT scan. Getting the results is always the most anxious moment of the whole treatment. I have heard since that fortunately, the CT scan was clear again.

Until now, as part of the DC vaccination treatment, I have had six CT scans, 20 biopsies (7 from my arm and 13 from my back) and my husband and I have made 30 return trips between Rotterdam and Nijmegen. That is quite something, but it was really worth it. Despite the treatment with cisplatin - I always took the necessary (anti-sickness) medication in good time - I never vomited or even felt nauseous, at the most there was a vague queasy feeling. I never had a fever, just the usual feeling of a touch of flu now and then and tiredness. During the last treatment in the period October-November 2014, it was quite noticeable that it took me much longer to recover. But when you consider the nature of the treatment, nothing serious or unusual happened.

As far as my arm is concerned, the following: about three months after starting the first treatment, I had the most trouble with my (upper) arm. It was very painful and had swelled up considerably compared to before the treatment, partly due to the metastases which were sometimes more than half an inch thick. That situation lasted about three months. From the end of March, there was a definite improvement. Most of the metastases were gradually flattening out, my arm was therefore much thinner and far less painful if it got knocked with all the horrible consequences that meant. I was able to bend my arm again and rest it on the table without needing cushions to ease the pain. I could also wear most of my normal clothes again. Half way through September 2014 (about four months after completing the first follow-up treatment) I also noticed a positive effect on the metastases that had withstood the first treatment. All the metastases are still clearly visible (almost too many to count, large and small dark blue patches in a sort of band around my upper arm), so I do not want to expose my arm to all and sundry, but that is the least of my worries if I am honest.

What next?

I realise clearly that the situation will always be extremely worrying (we are dealing with a melanoma and metastases after all), but I am very satisfied with the results achieved so far. These results make all the difference to my present quality of life. You never know what the future holds, so I am not going to dwell on that too much.

Dendritic cell vaccination in carriers of Lynch syndrome

Steve Boudewijns and Nicoline Hoogerbrugge

Lynch syndrome is a hereditary disposition towards mainly bowel cancer and uterine cancer, but also other forms of cancer may be involved (for instance urinary tract cancer). At present, five genes have been identified that can cause Lynch syndrome. These are genes that are involved in repairing 'errors' in our DNA. If a mutation is present in one of these genes, it means that Lynch syndrome is present and the 'errors' will not be repaired. As a consequence, the gene is misread and abnormal proteins are produced.

Various abnormal proteins have been found in cancer cells from bowel tumours in carriers of Lynch syndrome. These proteins occur specifically in Lynch carriers and are foreign to the human body. The breakdown products of these proteins are found on the surface of tumour cells. Laboratory tests have shown that these proteins can be used to stimulate an immune response. Advantages of these 'targets' are that the proteins occur in polyps and tumour cells, but not in healthy cells.

Study design

In this study, we obtain monocytes from a Lynch carrier using a special blood-taking technique called apheresis. Monocytes are young white blood cells that are cultured into mature dendritic cells in the laboratory. Lynch-specific proteins are also added. The dendritic cells are then re-administered to the Lynch carrier and we expect that specific immune cells (T cells) will be produced against these proteins.

This is the very first study in the world on preventive dendritic cell vaccination (DC vaccination) in Lynch carriers. The first aim of the study is to evaluate whether DC vaccination is safe and feasible. The second aim is to determine whether an immune response can be triggered against Lynch-specific proteins.

The study has a phase I/II design with two groups of participants. Group 1 comprises Lynch mutation carriers with bowel cancer who receive follow-up treatment with DC vaccination. Group 2 comprises healthy Lynch carriers who have not yet developed bowel cancer. In principle, the members of each group undergo three rounds of vaccinations. Each round consists of three vaccinations (weekly), a skin test and taking biopsies from the participant's back. This process is also followed by colonoscopy in rounds 1 and 2. During this period, the blood samples and biopsy specimens are tested extensively at the laboratory to analyse whether specific immune responses have occurred against the proteins. If the researcher and the participant do not see any reason to stop, rounds 2 and 3 are carried out at six-monthly intervals. All the participants undergo regular check-ups.

Possible side-effects of the vaccinations

On the basis of our experience with DC vaccinations in melanoma patients, the side-effects are according to expectations. Possible side-effects comprise flu-like symptoms (fever, shivering, muscle aches, headaches, fatigue). The complaints mostly persist for one or two days and then subside rapidly. In addition, a reaction can occur at the injection site in the groin (redness, swelling and itching). These problems disappear spontaneously.

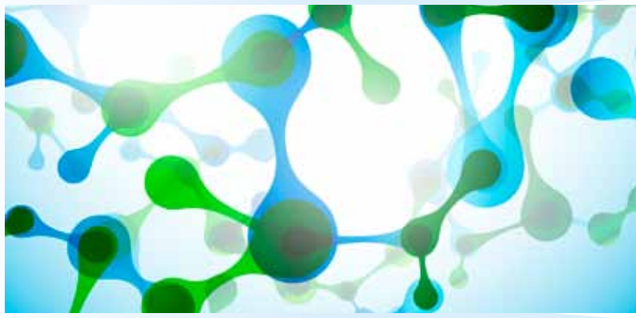
Preliminary results

At the time of writing this article, there are three Lynch mutation carriers with bowel cancer in group 1 and 18 healthy Lynch mutation carriers in group 2. The first results are very promising, because we have been able to demonstrate a specific immune response in several of the participants. In addition, all three participants in group 1 are cancer-free at present.

The study is still ongoing, so we do not have the final results yet. Nevertheless it seems promising that DC vaccination will stimulate an immune response to the Lynch-specific proteins in the majority of participants.

Future perspective

On the basis of this study it is impossible to say whether DC vaccination can reduce the risk of polyps and bowel cancer in Lynch carriers. We hope that our study will form the basis for further research in which it can be shown that DC vaccination really does decrease the risk of polyps and/or bowel cancer.



A new type of dendritic cell vaccination for metastasized hormone-sensitive prostate cancer

Harm Westdorp and Steve Boudewijns

The prevention of infectious diseases by vaccination is one of the greatest achievements of modern medicine. Nevertheless it remains essential to constantly improve the efficacy of existing vaccines and develop new vaccines. It is especially important to develop an effective vaccine against cancer. Our research group was one of the first in the world to use dendritic cells to enhance the immune response to cancer.

Dendritic cells (DCs) are the field marshals of our immune system. They play a coordinating role in the body's immune response, particularly in the recognition of cancer cells. Many are present in our mucous membranes, on our skin and in our blood where they track down potentially harmful foreign proteins. Recognition takes place because fragments of protein from the cancer cells are presented on the surface of the dendritic cells. When DCs detect foreign proteins and their alarm is set off, they carry a fragment of the foreign protein to the lymph nodes. The lymph nodes contain other immune cells that actually destroy the invader: T cells, the soldiers of our immune system. These soldier cells each recognise one specific fragment of protein. When that unique protein fragment is presented by an alarmed DC, they spring into action. This means that they reproduce themselves, leave the lymph node and surge through the body in huge numbers. The T cells hunt down the protein on tumour cells and then destroy them. In this way, an immune response can be induced by the T cells against the cancer cells, with the goal of totally destroying the cancer cells.

Dendritic cells that occur naturally in the blood

Until now, the vaccinations have comprised DCs cultured from immature while blood cells (monocytes). We observed that our immune system developed anti-tumour T cells (special immune cells) in response to the vaccinations. In a proportion of patients, the treatment led to long prolongation of survival. However, recent studies have shown that this type of DCs is not the optimal source for DC vaccinations. Owing to the extensive culture process needed to bring monocytes to maturity, our preference lies in dendritic cells that occur naturally in the blood, the so-called myeloid and plasmacytoid DCs: mDCs and pDCs, respectively. These naturally-occurring DCs can be isolated directly from the blood and returned to the patient within two days, because they require a far less intensive culture period. This isolation technique has recently become available at the Radboudumc.

A short while ago, we performed a clinical trial on patients with metastasized melanoma using pDCs. Mean survival of the melanoma patients was 22 months compared to 7.6 months in patients who received standard chemotherapy. On gene level, we observed that the immune system produced two substances in much larger quantities after the vaccinations.

We also investigated mDCs in 14 patients with metastasized melanoma. In three patients, the immune system produced activated T cells, which improved their survival.

On the basis of these observations, we are convinced that naturally-occurring DCs in the blood (i.e. pDCs and mDCs) lead to more potent anticancer vaccinations.

Immunotherapy also works on prostate cancer patients!

Prostate cancer is the most common form of cancer in men, after skin cancer. Over the past few years, several new therapies have been investigated. Prostate cancer is usually diagnosed in men of older than 65 years. Depending on the stage of the disease, current treatment comprises a wait-and-see policy, removal of the prostate, radiotherapy, hormone therapy or chemotherapy. One third of patients with a localised prostate tumour develop metastases within a period of 10 years. Hormone therapy is the treatment of choice for metastases. Although hormone therapy has a beneficial effect initially, most of the tumours become resistant to the treatment within 14 to 30 months. These cases are referred to as metastasized hormone-sensitive or castration-resistant prostate cancer. Mean survival in these patients is 15 to 19 months. For many years, the only treatment available for these patients was the chemotherapeutic drug docetaxel, which extended survival by two or three months. More recently, some new treatment modalities have become available for patients who have undergone docetaxel treatment. Examples of these modalities are adjuvant hormone therapy (with abiraterone or enzalutamide) or chemotherapy with a second drug (cabazitaxel). Immunotherapy has also proved successful in patients with metastasized prostate cancer.

In 2010, a large-scale vaccination study was carried out using sipuleucel-T (Provenge®).This vaccination treatment is derived from immature white blood cells. Compared to placebo, the vaccine extended survival by four months in patients with metastasized hormone-sensitive prostate cancer. Until now, this is the most important proof that immunotherapy also works on prostate cancer patients. It has led to the registration of the first anticancer vaccine ever by the American Food and Drug Administration (FDA). In September 2013, the European Commission granted permission to use the vaccine in Europe.

Study planning

Immunotherapy has proven to be effective in patients with prostate cancer. Therefore, in the very near future, it is our intention to initiate a study on the vaccination of patients with metastasized prostate cancer using DCs that occur naturally in the blood, as described above. The vaccinations will contain pDCs and mCDs, which will be injected into an inguinal lymph node (i.e. a lymph node in the groin) by a radiologist. A treatment cycle will comprise three vaccinations, a skin test and biopsies from the patient's back to determine whether the immune system has been activated. In the same period, extensive immunoanalysis will be carried out at our laboratory on blood and biopsy specimens from the vaccinated patients. If there are no signs of progression of the hormone-sensitive prostate cancer metastases after one cycle of three vaccinations, then the patient is eligible for a second and third cycle of three vaccinations. The second cycle will take place six months after the first. If there are no signs of progression of the metastases after the second vaccination cycle, then the patient is eligible for a third (and last) vaccination cycle.

Possible side-effects

Based on our experience with this type of DC vaccination in patients with metastasized melanoma, we anticipate that prostate cancer patients will also tolerate the vaccinations adequately. Frequent side-effects of the vaccinations comprise short-term fever (max. two days) with hot and cold shivering, a temperature in excess of 380C, fatigue, muscle aches and headaches. In some cases, there is a reaction at the injection site in the groin where the radiologist administered the vaccine.

Concluding remarks

Important advantages of immunotherapy over chemotherapy are that the treatment stimulates the immune system and involves only fairly mild side-effects. Among prostate cancer experts worldwide, there is no uniform consensus about the best treatment for metastasized hormone-sensitive prostate cancer. A great deal of research is being conducted into this patient group on a global scale. One of the major points of discussion concerns the order in which the various treatment modalities can be applied. Ultimately, we need to devise a much more effective treatment method. Vaccination with naturally-occurring DCs is a very promising option and forms the subject of forthcoming research. It is our goal to replicate the results achieved in melanoma patients: to demonstrate that vaccines containing DCs that occur naturally in the blood, can indeed boost the immune system in patients with metastasized prostate cancer. In addition, we aim to demonstrate that the vaccinations are safe, feasible and effective in clinical practice. Another important issue is the influence of the treatment on a patient's quality of life. The latter will be investigated using questionnaires.

Medication and dietary supplements: a dyad to fight cancer?

Dr Alessandra Cambi and drs Mark Gorris

When we become ill and need to take medication, we normally continue to follow our normal eating pattern. But is that always wise? Or is there a way to adapt our eating pattern so that it does not interfere with the effect of the treatment, but actually enhances it? The relation between medication and diet is becoming an increasingly important research topic.

Immunotherapy stimulates our own immune system to fight cancer. In particular, various white blood cells, such as dendritic cells and T lymphocytes, are instructed to recognise and destroy cancer cells. At the Tumour Immunology Department of the Radboudumc in Nijmegen, the Netherlands, a great deal of research is being conducted into optimising immunotherapy against cancer. In some cases, immunotherapy is used in combination with other treatment modalities, such as chemotherapy. However, we still know very little about how chemotherapy affects our immune system and how it ultimately affects the outcome of immunotherapy. What we do know is that some dietary supplements boost the immune system and what we still need to find out is whether certain supplements have a positive or negative effect on immunotherapy and/or chemotherapy.

New line of research

Thanks to the financial support from the Defence against Cancer Foundation, researchers at the Tumour Immunology Department have recently started a new line of research into the effects of certain dietary supplements on the cells used for immunotherapy. Everyone has heard of omega-3, a substance that is important to the human body, which is chiefly found in fatty fish like salmon and herring. Omega-3 fatty acids are associated with many health benefits, such as protecting against cardiovascular disease. A less well-known fact is that omega-3 fatty acids also help to improve the function of white blood cells. As yet, research into this topic is sparse and the evidence is therefore still limited. With our research, we aim to zero in on this gap in knowledge by studying the various effects of omega-3 fatty acids on dendritic cell function within the context of immunotherapy.

Dietary supplements

As mentioned above, the efficacy of immunotherapy can be enhanced by combining it with existing therapies, such as chemotherapy. Preliminary research at the Tumour Immunology Department has shown that platinum chemotherapy not only kills cancer cells, but also improves dendritic cell function. In line with the research questions posed above, we aim to demonstrate concerted action between dietary omega-e fatty acids and platinum chemotherapy in combination with immunotherapy. It is obviously unrealistic to expect that we will be able to fight cancer by eating more fatty fish, but it might become possible to enhance the effect of anticancer treatment modalities by adding certain supplements to our food.

Donation to the Defence against Cancer Foundation

Harm Westdorp

On Tuesday 9 September 2014, the Dutch family Van Boxmeer donated €2,500 to the Defence against Cancer Foundation. This splendid donation was raised at the parish church after the untimely death of Mrs Margaret van Boxmeer at the age of 44 years.

The Van Boxmeer family presenting their cheque

Her husband and their three children handed over the cheque personally to Nicole Scharenborg and myself at the Medical Oncology outpatient clinic of the Radboudumc in Nijmegen, the Netherlands. It was Margaret van Boxmeer's wish that money be donated to the Defence against Cancer Foundation instead of buying flowers for her funeral.
Margaret took part in one of the dendritic cell vaccinations because she had metastasized melanoma. Unfortunately, it did not have the effect we had hoped for. Nevertheless it was her heart-felt wish to raise money for more research into ocular melanoma. We are extremely grateful for this gift and we will make sure that the money goes to medical scientific research into (ocular) melanoma.

Dear friends,

They asked me to write a piece about our experience with melanoma and the treatment received by my recently deceased wife Margaret (44), mother of Lieke (16), Koen (14) and Bart (13).

After discovering a lump in her breast, the doctors at the hospital in Uden, the Netherlands, did some tests and soon told us that the lump was a metastasis from ocular melanoma and that it had also spread to the liver and lungs. They could not do anything more for Margaret in Uden, so they referred us to the Radboudumc in Nijmegen, the Netherlands. On 11 October we had our first appointment with Dr Westdorp, who immediately invited us to call him by his Christian name. He told us about possible treatment in the form of immunotherapy. First, Margaret needed a blood test to see whether she had the protein necessary to undergo the treatment with dendritic cells.

We heard the result on 16 October 2013 and were pleased to find that she was a suitable candidate to receive the treatment. At this stage, even the faintest hope gives motivation to carry on. After sufficient blood cells had been gathered, the lab started making preparations for the first treatment. It started at 8:30 am on 1 November 2013 with a blood test, then at 9:30 am the chemotherapy and later in the afternoon, administration of the dendritic cells. At 6 pm, we went home.

Fortunately, the treatment did not make Margaret ill. It had to be repeated every two weeks. Between treatments, she carried on with her usual running activities two or three times a week and having a walk every day to keep fit, but mainly to relax with nice people around her. We spent a couple of enjoyable weekends away with the kids, family and friends. She was always ready with comforting words for others "we can't change what's coming to us; we get what we get."

At the end of January 2014, she could only go for walks, because the tumour in her breast was bothering her so much. They removed it on 5 February 2014. On 11 February she booked a holiday in Barcelona with some friends. Her pain tolerance was far higher than average and she was able to go on that trip, too.

On 10 March 2014, we heard the results of the biopsies they took from her back: unfortunately, the treatment had shown little or no effect. From that moment on, Margaret's quality of life deteriorated rapidly. By 1 April 2014, she was having such severe problems with her liver that she became bedridden. Nevertheless she retained a positive face towards everyone and never found it difficult to talk about her disease. She also took great delight in her children before they went to school and when they got home and also in the family and friends who meant so very much to us during the last few months. Happily, Margaret's wish to stay at home could be fulfilled, with the help of the children and without any further care from outsiders, to the last day.

Margaret died on 23 June 2014. A wonderful, strong and loving woman, who never uttered one word of complaint about why she ended up with the disease; instead, always thankful for the marvellous time she had here.
Margaret, myself and everyone around us are very grateful that she could take part in this medical trial. It was her wish, instead of having flowers, to raise money for research into ocular melanoma. After Margaret died, we presented the money that was raised to Dr Westdorp and his colleague.

We wish Dr Westdorp and the whole team at the Radboudumc every success with their research and hope that you will soon be able to conquer this devastating disease.
All the best,

Eric, Lieke, Koen and Bart

Margaret van Boxmeer-van Rooij

July 2014

Aromatherapy Associates announce ‘Inner Strength Walk’

IN AID OF DEFENCE AGAINST CANCER

The Aromatherapy Associates team is delighted to announce that they are doing a charity walk on Friday 5th September 2014. The whole team is walking seven miles from their head office in Brentford to the Aromatherapy Associates Boutique & Treatment Rooms in Knightsbridge, to raise money for the ‘Defence Against Cancer Foundation’.

Defence Against Cancer is a pioneering charity working on the development of a new cancer vaccination, to help stop specific forms of the disease spreading. Known as Immunotherapy, this is a new and promising modality in cancer treatment, which uses the body’s own immune system to help fight the disease.

Whilst founder Geraldine Howard was undergoing this ground breaking treatment, she turned to her essential oils to help her through what was inevitably a challenging time, and the result is the now bestselling Inner Strength Bath & Shower Oil. Geraldine felt so privileged to be undergoing the treatment, that she wanted to give something back to the foundation supporting the research, so 10% of all Inner Strength proceeds go directly to ‘Defence Against Cancer’.
Due to the incredible feedback from their customers, Aromatherapy Associates is set to add two new products to this inspirational collection in September, the Inner Strength Body Oil and Inner Strength Candle.

Geraldine Howard comments, “I am truly honoured to raise money for such a fantastic cause that is so dear to my heart, I am so proud and grateful to my team and hope that you will join us in supporting this incredible charity”

Any donations to Defence Against Cancer would be gratefully received via www.justgiving.nl
You can follow the progress up to and on the day, via Instagram @aromatherapyassociatesuk, twitter @AromaAssoc, Facebook Aromatherapy Associates
Aromatherapy Associates: 020 8569 7030 / www.aromatherapyassociates.com.

Press Enquiries:
Aromatherapy Associates via Imagination PR: Emily Lewis or Martha Edwards
t: +44 (0)20 3384 9750, e: emily@imaginationpr.co.uk or martha@imaginationpr.co.uk

Neil Orvay and his Sahara Madness

Neil Orvay, from Singapore, was inspired by Geraldine Howard to Sahara craziness. Last summer, Neil walked in 10 days 250 km through the sweltering Sahara. With this super effort, see attached photo, he has collected more than **€ 20,000** for the Foundation Defense Against Cancer. More details about these Sahara craziness can be found on the website and on the website of Neil Orvay’s Sahara Madness JustGiving.

Saharagekte (Sahara Madness)

door Neil Orvay

Neil’s Sahara Madness
In October last year I attended a conference in Delhi. A woman I have known and respected for a number of years by the name of Geraldine Howard shared her story with the 400 delegates and if you can give one minute of your time to read the below paragraph, you will understand why I feel strongly enough to try and complete a 250 km race in the Sahara desert to raise money for this specific cancer research project.
SATK is a privately funded cancer research charity at Radboud University Nijmegen Medical Centre in Netherlands. The SATK approach focuses on helping our immune system suppress and kill cancer cells rather than relying on chemotherapy or drugs.

Geraldine is the co-founder of Aromatherapy Associates, one of the UK’s leading skincare lines. She is a leading light in the beauty industry and a model of ethical business. Three years ago she was diagnosed with eye cancer and given the option of radiotherapy and drugs, or removing the eye. She chose to operate on her eye and have it removed to avoid the pain and side effects of radiotherapy. After the operation, Geraldine found out that not only had the cancer spread, but she had a very aggressive form of cancer and it was not a question of if it would spread further, but when. It could be a matter of weeks before the cancer spread and the maximum life expectancy she was given was 5 years.
That was 2 1/2 years ago and the cancer has not spread since she started the SATK treatment. She is living a full life running her company without any of the side effects normally associated with cancer treatment. To anyone who has experienced living with cancer, at a personal, family or close friend level (and that’s one in three of us), this sounds too good to be true.
What is unique with this treatment and what really resonated with me is that it does not require chemotherapy, radiotherapy or drugs and therefore it isn’t profitable for the big pharmaceuticals which means they wont fund it. So here’s a potential pain and side effect free cancer cure that can’t get funding because it’s not profitable. Do you feel the same way I do? If so click the link below and make a donation.
You don’t need to (try) and run 250km through the Sahara to make your point, one madman doing that is enough. Help me hit an aggressive target of EUR 50,000 to help expand the research for this pain free approach to curing the world’s biggest killer.
Treatment is currently administered to patients with four different types of cancer: melanoma (skin and eye cancer), colon cancer, prostate cancer and Kahler’s disease (cancer of the white blood cells). The objective is to expand the research and treatment stepwise to other types of cancer. Every donation, however much, will help the researchers at Radboud University expand their research and save more lives.

Thank you for taking the time to read this. I hope you will support the cause. Neil

New imaging techniques to improve cell vaccination techniques

Dr Mangela Srinavas, postdoc, Tumour Immunology Department, Radboudumc

The human body is extremely complex. It comprises more than 10,000,000,000,000 cells. How can we determine whether a tiny handful of these cells are doing their work correctly when we have so many different interconnected cells, tissues and organs?

At present, this is one of the greatest challenges facing researchers. It is going to take teamwork on a broad scale between several oncological clinical disciplines right up to cell therapy research groups.
Do the immune cells end up in the right place and do what they are supposed to? These are the questions I am attempting to answer with my work.

Imaging techniques

My group is focused on developing techniques that can "show up" specific cells using imaging techniques, comparable with taking an X-ray. If we can detect specific cells and follow them, then we can effectively optimise and tailor cell therapy for every single patient. This information will help us to better understand the complex biology of the human body.

Before I moved to the Radboudumc in Nijmegen, the Netherlands, I was working in the USA on imaging techniques to follow cells through the body. I had expected to stay in Nijmegen for a couple of years, but it has already been more than five. It is of course a very worthwhile and challenging experience for a young Indian woman to live and work here in the Netherlands.

New tools

By now, the Tumour Immunology Department has treated more than 200 hundred patients with cell therapy. During some of these treatments, an imaging technique was used, mostly radioactive cell labelling. In the near future, we will be able to use new tools that are being developed in Nijmegen, to evaluate the treatment even more holistically and achieve further improvements for the patients.

What can you do to support the Defence against Cancer Foundation?

You too can contribute to the fight against cancer simply by making a donation. No matter how big or small, every gift is always welcome. Perhaps you have an idea about how to raise money, like holding a sponsored walk. Many others have led the way and maybe you can inspire even more people to help in the fight against cancer. If you have suggestions or questions, please contact: info@afweertegenkanker.nl or make your donation directly on the website: www.afweertegenkanker.nl/doneren

IBAN Defence against Cancer Foundation: NL35RABO0137833806

BIC: RABONL2U in Nijmegen.

Colophon

DEFENCE AGAINST CANCER FOUNDATION

P.O. Box 1491 6501 BL Nijmegen The Netherlands
Tel: 06 51 69 12 26
E-mail: info@afweertegenkanker.nl
Website: www.afweertegenkanker.nl