

**BUILDING**  
**MENTAL**  
**AND PHYSICAL**  
**CANCER**  
**RESISTANCE**



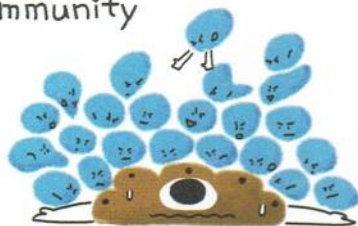
REO HAMAGUCHI, MICHIKO HASEGAWA,  
AND HIROMI WADA





Dr. Wada

Immunity



Cancer cell



Vaccine-man

# BUILDING MENTAL AND PHYSICAL CANCER RESISTANCE

REO HAMAGUCHI, MICHIKO HASEGAWA, AND HIROMI WADA



Normal cell



TNF- $\alpha$



mTOR



mTOR (activated)



Surgery



Anticancer drug



Radiotherapy



Palliative care

## **Building Mental and Physical Cancer Resistance**

## Preface

What is cancer? It is something that forms in your body, and is most likely to be something that your body itself created. Therefore, the cancer will not subside unless you change the constitution of your body that created the cancer in the first place. Although many patients try to convince themselves that “the cause of the cancer is unknown”, this is in fact not the case – they are just not trying to understand the cause. And, if they themselves created the cancer, do they really want to cure it from the bottom of their hearts? Are they really trying to lead both their minds and bodies to control the cancer? When I talk to patients in the consultation room, it strikes me that so few patients talk with their doctors and try to understand the treatment choices, the details of their treatment of choice, and the actual course of treatment.

In general, cancer patients believe that cancer treatments are very unpleasant, that most treatments are ineffective, and that most patients die quickly in a lot of pain. However, if patients can change their attitudes, they will be able to overcome such problems.

In the outpatient clinic, I encounter many patients who tell me that they were under a lot of stress from a few years previously until right before they developed cancer. In

medicine, there is something called the “autonomic nervous system and the hypothalamic-pituitary axis”, in which one’s emotions affect the pituitary gland, which then secretes fight hormones such as adrenaline, noradrenaline, and corticosterone. Strong anger or anxiety is known to disrupt the body’s hormonal balance, resulting in a decrease in the activities of the immune system. Moreover, it is also known that feeling comfortable or happy leads to activation of the immune system.

Although doctors will often make comments, such as “you cannot be cured” or “this treatment will only be effective temporarily and will eventually become ineffective”, such comments will only weaken the patient’s immune system, leading to unfavorable treatment outcomes. Treatments must be undergone with hope. By preparing your body into “a body that does not succumb to cancer” before receiving cancer treatment, you will be able to gain maximum benefit from the treatments. This book was written to guide cancer patients in this way. It would be my great pleasure if this book would benefit patients and assist them in their future cancer treatments.

Hiroimi Wada

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## Chapter 1.



## Cancer treatment



## Standard cancer treatments

Cancers are created by our own bodies. There are numerous possible reasons as to why the body created the cancer. It may be a result of long-lasting dietary habits or particular lifestyles. A large amount of psychological stress may also play a role. Some people worry that they are from families at high risk of cancer. However, people who develop cancer owing to their genetic backgrounds are thought to be only 5%-10% of cancer patients (1).

Therefore, to effectively deal with cancer, rather than leaving the treatment strategies up to the doctor, it is very important to reconsider one's diet and lifestyle, and take more initiative in deciding on one's own treatments, and at the same time, to change the constitution of your body that created the cancer. To do this, it is essential to understand the treatment choices that are suggested by the hospital, and to know how they will be performed.

In general, there are 3 main standard methods for the treatment of cancer.

- Surgical treatment
- Anticancer drug therapy (chemotherapy)
- Radiotherapy

## Surgical treatment

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Surgical treatment involves surgically removing the actual cancer from the body. In general, in cases of early stage cancers, surgical removal can often lead to a complete recovery. In addition, by removing and examining the cancer as well as the surrounding lymph nodes, it is possible to gain further detailed information as to how advanced the cancer is, or the type of cancer cells involved.

In recent years, there has been considerable advancement in surgical treatment techniques to treat cancer. With the popularization of endoscopic surgeries and robotic surgeries, as well as advancements in preoperative and postoperative general care, it has become possible to perform surgical treatment more safely and accurately for early stage cancers, as well as more effectively for later



stage cancers. Therefore, if a patient has early stage cancer, and furthermore has no other chronic illnesses and has the physical strength to endure surgery, this will be the first method of choice.

However, it may not be sufficient just to rely on surgery. Cancer does not end with its removal from the body – if the body is left in the state that resulted in the cancer in the first place, the body is likely to create more cancers in the future. Therefore, it is important to change the body environment that lead to the development of cancer in the first place.

### Anticancer drug therapy (chemotherapy)

Surgical treatment is usually applicable for only a small fraction of patients diagnosed with cancer, and most patients will be advised to undergo chemotherapy. Chemotherapy can be largely divided into 2 types: cytotoxic chemotherapy and molecularly targeted chemotherapy (Table 1). Traditional cytotoxic chemotherapies are used to attack cancer cells, but at the same time cause damage to normal cells, particularly rapidly dividing cells, such as those of the hair and digestive tract, as well as blood cells, such as white-blood cells and red-blood cells. This results in side effects, such as a loss of appetite, nausea, hair loss, diarrhea, and bone marrow suppression. Although

the development of treatments to alleviate these side effects have resulted in safer and more effective cytotoxic treatments, the effects of these treatments are still far from sufficient.

A significant breakthrough was made with the development of molecularly targeted chemotherapies, which first came on the market in 2001, starting with imatinib (product name: Gleevec). Molecularly targeted therapies specifically target key molecules that are required for the growth of cancer cells, and thereby inhibit cancer growth. There are currently many molecularly targeted chemotherapeutic drugs on the market, and further developments are underway. The likelihood of achieving a therapeutic effect can be determined by various characteristics of a specific cancer (e.g., its gene mutations), and are used to determine whether administration of the particular drug is appropriate or not. In the future, molecularly targeted therapies are expected to become the center of cancer treatments.





Chemotherapy techniques are significantly advancing, with the development of treatments for their side effects, as well as the development of molecularly targeted therapies. However, even with these significant advancements, treatment effects are still limited and unsatisfactory. From now on, patients should consider getting actively involved in their chemotherapy treatments, particularly by changing their body condition so that they respond well to treatments, to aim for maximum treatment effects.

**Table 1**

**Representative cytotoxic chemotherapies and molecularly targeted chemotherapies**

**Cytotoxic chemotherapies**

irinotecan (Campto, Topotecin), etoposide (Vepsid, Lastet), epirubicin (Farmorubicin), oxaliplatin (Eloplatin), carboplatin (Paraplatin), gemcitabine (Gemzar), cyclophosphamide (Endoxan), cisplatin (Briplatin, Randa), capecitabine (Xeloda), tegafur-uracil (UFT), tegafur-gimeracil-oteracil potassium (TS-1), doxorubicin (Adriacin), docetaxel (Taxotere), trifluridine tipiracil (Lonsurf), nedaplatin (Aqupla), paclitaxel (Abraxane, Taxol), vinorelbine (Navelbine), fluorouracil (5-FU), pemetrexed (Alimta), methotrexate (Methotrexate)

**Molecularly targeted therapies**

axitinib (Inlyta), afatinib (Giotrif), alectinib (Alecensa), imatinib (Gleevec), everolimus (Afinitor), erlotinib (Tarceva), crizotinib (Xalkori), gefitinib (Iressa), sunitinib (Sutent), cetuximab (Erbix), sorafenib (Nexavar), dasatinib (Sprycel), temsirolimus (Torisel), trastuzumab (Herceptin), nilotinib (Tasigna), nivolumab (Opdivo), pazopanib (Votrient), panitumumab (Vectibix), bevacizumab (Avastin), bortezomib (Velcade), lapatinib (Tykerb), rituximab (Rituxan), regorafenib (Stivarga)

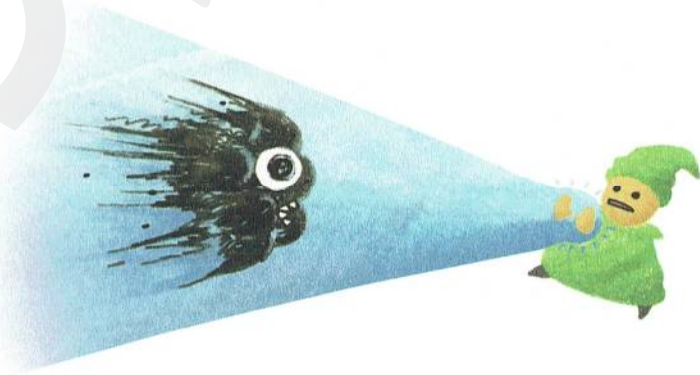
## Radiotherapy

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There are 2 main reasons for undergoing radiotherapy.

- 1) Irradiation of early stage cancers aiming for a complete recovery, and as part of a multimodal therapy against advanced stage cancers (coupled with treatments such as chemotherapy)
- 2) Irradiation aimed for the alleviation of symptoms

Large advancements have been made in the field of radiotherapy in recent years. For example, stereotactic radiotherapy is a method in which the irradiation is targeted to a specific region of choice. There are many types of stereotactic radiotherapies and their treatment outcomes have been improving. Depending on the cancer type and the target region, stereotactic radiotherapy is an outstanding method in terms of its ease to perform and treatment effects. Furthermore, with the popularization





# Building Mental and Physical Cancer Resistance

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