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# The Changes and Prospects in the Medical Treatment of Cancer Disease

Only one-third of all patients with cancer can be cured with the chance of a normal life-expectancy, and this is only true when the relatively early recognized cases are taken into consideration. Our present ability to control the disease is fundamentally unsatisfactory as every physician and many laymen know.

Cancer disease is a long-term phenomenon, its course being basically determined by the balance of the tumor-host relationship. Long latent periods before the development of an aggressive malignancy must be assumed today, and likewise a latent malignant process without its ever coming to a manifest disease. A few years ago in Lund a large number of post mortem examinations revealed that to the cancer mortality of 22% latent malignant growth cases without clinical relevance had to be added.

We shall have to acquaint ourselves with the fact that there is no sharp boundary between having cancer and being free of cancer just as there can be no radical cancer operation not even of very small tumors. A lasting success of treatment is according to statistical results very fundamentally influenced by the body's own subsequent defensive powers.

In my opinion the definition of cancer disease as a long-term phenomenon is a very fundamental key in understanding the inadequacy of our therapy. Surgical therapy is a short-term therapy as well as topically limited. The situation is no better with radio-therapy and the application of radionucleoides; they too are not equal to the requirements of a long-term phenomenon. On the basis of these considerations I am very skeptical with regard to fundamental progress in the surgical and radiological treatment of cancer, also when early diagnosis should be utilized better and more successfully than it is today.

How very dim prospects appear, with all appreciation of the achieved, proceeds from the all-American investigation presented by Albert Segaloff in the results of post-operative irradiation of mamma-carcinomas. The relapse frequency and mortality in irradiated patients is just as high, also in regard to course of time, as in non-irradiated patients, with the difference that there are more organ recurrences which occur in the irradiated people, and more local recurrences in the non-irradiated people. To me the latter is the less evil alternative.

The unsatisfactory results of the chemotherapy of cancer also have to be confronted once again with the realization that a "short-term-management" must deal with a long-term phenomenon here. The "cytostatic drug" concept is pharmacodynamically conscious of the toxic side-effects, and takes them into the bargain. Then it is a question of time before this therapy concept finds its premature boundary because damage to the host organism becomes too big - e.g. to the bone marrow - or damage to endogenous condition and resistance becomes even more aggravating than the therapeutic effect of the cytostatic drugs in the tumor. Even the numerous supply of manifold combinations in the application of cytostatic substances, which have the aim of spreading the toxic risks and of increasing the therapeutic effect on the tumor, cannot overcome the marked boundaries in principle, even when the disease can be suppressed over a period of years in this way in many cases, e.g. in the case of breast carcinomas.

Once again in full acknowledgment of that achieved, and that which can be achieved, several red warning lights are signaling the narrow boundaries of the toxic chemotherapy concept. The DS-tumor, which was originally inoculated from a di-amino-stilbene inducted carcinoma of the ear duct of the rat, in the beginning had a bad take in the recepting grafted animals. On treating the animals with Endoxan, the grafted tumors took much better. In this special model, the damage to host was more influential than to the tumor. Or else the comment made by the Swiss oncologist Brunner: If in the case of bronchial carcinoma, cyclophosphamide alone is administrated and in limited constant application, life-expectancy is shorter than without any therapy.

Also the fact cannot be concealed that a high "provoked" cancer chemotherapy not seldom results in the considerable additional suffering of the patient or a regression or remission paid for with a final iatrogenic collapse of eddogenous condition. And in addition to this the carrying-out of a very developed or even highly provoked cancer chemotherapy in the large ambulant medical care brings many problems with it.

These arguments show already that I judge the future prospects of the toxic chemotherapy of cancer very skeptically. The first halt-signal can already come very soon from a quite different direction. The new drug law will possibly impose liability on pharmaceutical firms of toxic side-effects, above all when the latter are according to the legal aspect "disproportionate" (to the achieved effect or to non-toxic alternatives.) Then cytostatic drugs could be saddled with very high premiums for the insurance pool, whereby their use would overstep the boundary of the economically acceptable and "proportional."

Every physician who is dealing with the long-term care of cancer patients knows that the balance is such as I have pictured here - unfortunately few like to strike or voice it.

Therefore we shall be forced to consistently adopt another route in the further development of the medical therapy of cancer disease, and have to submit to a row of unalterable demands in order to meet the requirements of the long-term applicability and the long-term perspective of a medical cancer therapy. These demands are:

> The therapy must be absolutely free from any negative side-effects, even in the case of extremely long-term application. In particular no immune-suppressive side-effects can be included in the bargain. The therapy must be able to be carried out under simple conditions in every medical practice.
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> It must be very economical in time and money expenditure. It must be practicable for the patient himself.

Once more there are fundamental considerations which especially illuminate the above requirements. There is no doubt that the early diagnosis, possibly an extremely early diagnosis from the body's fluids without localization of a tumor, is a fundamental key to the improvement of therapy results. It is, however, for many obvious reasons, impossible to want to tackle these therapeutically so fundamentally early stages of cancer with a toxic chemotherapy. Likewise is the post-operative protective therapy problematic with chemotherapy and at best of modest positive effect. Karrer in Vienna is of great merit for inquiry into these problems. Furthermore the cancer patient is an out-patient by far during the longest time of his illness. This means that his destiny will be decided in ambulant care, rather by his family physician or free practicing physician who has known him for a long time and also has a personal relationship to him. While the diagnosis, above all the early diagnosis, requires possible larger centers (endoscopy high efficiency laboratory, nuclear medicine,

etc.), a modern non-toxic medical long-term therapy of the cancer should, as I see it, lie in the hands of the family physician or internal specialists. Here it will probably be most effective, most economical and also most human.

It is old experience that says that a sober and sobering stock-taking and a revaluation of decisive imponderables yields impulse and direction of route for further positive effort. This holds true too for the possibilities of a non-toxic long-term therapy of cancer. Yes, this field of research seems to be proving itself decidedly worth-while. For years it has been of great fascination to me due to the abundance of striking findings it offers.

The medical therapy of cancer (in America they now talk about the 'biological approach') is based upon several old methods which fulfill the afore-mentioned demands, and upon a larger number of developments and aspects.

To established procedures belong:

1) The hormone therapy, especially the contrasexual; today it is firmly established.

2) The mistletoe therapy. Often disputed, even after the works of Vester concerning a possible suppressive effect not yet explained. Often contested, not yet cleared up in its effect again and again it provides rehabilitating points: A clinical long-term study carried out in Bristol and published a short time ago reported that the result with mistletoe had been more favorable than that one in a comparison group treated with cyclophosphamide (Endoxan).

3) Diet. It should be rich in acid and not include any carbohydrates which move the blood-sugar-level abruptly upwards. No meat from hormone-injected animals or from growing animals. No meals (crustaceans) rich in nuclein. A colleague, suffering from a branchiogenic carcinoma has demostrated how highly the eating of chicken from battery farms activates the growth potential of the tumor. Food should be as rich as possible in nitrilosides (see below). Apricot kernels (20 per day are recommended), wild berries, apple pips and millet are rich in nitrilosides.

If possible food should be very rich in proteolytic enzymes (see below), e.g. in papaya juice. An ample intake of carrot juice enriched with cream for a better reabsorption of the carotene is recommendable. Carotene is a very strong activator of the thymus function, as well as zinc. The New York Cancer Research Institute holds at its disposal several reliable reports in which the remission of cancer disease could be proved solely with the administration of high doses of carotene.

The newer methods in medical tumor therapy, also partly still in the process of active further development, are the following:

4) Nitriloside therapy.

5) Copper retrotransport device.

6) Re-differentiating principle.

7) Enzymatic deshielding therapy.

8) Unspecific vaccination with BCG, tubberculin or Marauyama vaccine which contains leprous extract

9) Normalization of the balance of energy-rich phosphates.

10) Correction of decisive mineral and metal ion displacements according to the whole-blood analysis.

11) Treatment of general calcium mobilization out of the bone due to malignancy (and also a result of cortisone therapy!) with Calcium-orotate. The same substance can even recalcify bone metastases in favorable cases.

Surgery, radiation treatment and toxic chemotherapy can often be combined with this program to the advantage. For example in the form of palliative surgery to decrease the mass of the tumor, restoration of disturbed organ functioning, pyro or cryo surgery with the advantage of a vaccination effect, manufacture of vaccines from the surgical specimen. Radiology for the irradiation of topical finding with reduced focal dosage, toxic chemotherapy with a preceding massive dose therapy for the reduction of the tumor mass, or to support the before mentioned program with a barely toxic dosage range. Adriamycin for instance is suited for this purpose; we have been running such a combination program. (II)

I would like to explain in short each method of the non-toxic medical tumor therapy that I have already listed.

The Nitriloside Therapy. Nitrilosides are mandelic nitriles which are coupled with a sugar. Amygdalin, Prunasin and Dhurrin belong to them. They are not only non-toxic for the host organism, but even have a nutritive value since they improve cyanocobalamine synthesis. Their effect on tumor cells is probably due to the release of mandelic nitrile which for its part decomposes into cyanogen and benzaldehyde. Cyanogen is 'detoxicated' by rhodanization to thiocyanate. According to tests carried out by De Saussure thiocyanate can decomposs immune and shielding complexes at the tumor cell membranes for its part. The effect of Amygdalin and Prunasin is relatively weak, becomes stronger, however, if the tumor cell's respiration is high, and there is a simultaneously low reduplicating speed (which applies to the early stages of the malignancy process). Therefore, as a rule the tumor cell must be conditioned in this direction if nitrilosides are to be effective. Reitnauer in Dresden has attained this with Arbutine. The same can be achieved with copper retrotransport and the redifferentiating principle. So Amygdalin with these activating factors is on the Market as B17-orotate. (Amygdalin is also called Vitamin B17 since according to Krebs it is a nutritive factor of certain essential importance). The madelic nitrile principle is most probably a promising object for future research. The copper retrotransport device relatively new. We know that the progression of a tumor is marked by a very specific extrusion of copper from the tumor and an increase of copper in the whole-blood. This phenomenon was first extablished by Rilling, and was object of an important report from the cancer research center in Houston only in 1974 - above all for the Lymphoma model. If copper is successfully transported back again into malignant (and also rheumatically changed) cells, then their respiration rises, and the result is a partial redifferentiation and a slowing of the malignant aggressiveness. Through quicker metabolism well-known active substances (e.g. Aspirin) become more effective many times over and at the same time less toxic. Copper-thiosemi-carbazon (Upjohn) is very highly carcinostatically effective. The copper therapy is carried out the best with Copper-orotate (Nadrol) as the orotic acid carrier molecule has a high affinity to malignant metabolism. The device is of great progression both in cancer therapy and rheumatism therapy; it is non-toxic, and its future has surely just begun.

The redifferentiating principle has been known in itself since Stoger's proposed 'Intergene'. To that in the first place, a thyroid principle is used which is also responsible for the transformation of the

axolotl and the tadpole. Under its effect the respiration in tumor cells rises and a simultaneous tendency to differentiated cell behavior occurs. Just as the copper retrotransport principle, it intensifies the effect of nitrilosides on the tumor as will as the body 's immune resistance, since the tumor does not overcome the latter so quickly because of its less growth rate. In addition the thyroid principle has a deshielding effect as explained further on.

In this preparation undesirable side-effects of the thyroid are masked by means of certain artifices so that the above all there result no undesirable glycogen mobilization and energy drainage. The new Potassium-orotate which directly intracellularly ensures the potassium saponification of hydrogen bonds (Valsae) and thus guards against functional and structural cell damage due to sodium is most effective as a protecting factor against these side-effects of the thyroid principle. By the way potassium orotate (Nadrol) was already found by Bajusz to be one of the most effective substances we know in the prevention of heart muscle necrosis. The redifferentiating principle is effective in benign processing as well as malignant ones, as seen for example in the case of the prostate gland. This principle is embodied in B17 - orotate and in the NCP capsules.

It is important to know that the effectiveness of toxic chemotherapy can be diminished by means of copper retro-transport and redifferentiation, because its pharmacodynamic basis of attack is limited.

The enzymatic deshielding therapy of the tumor cell lately has occasionally made headlines. As a rule the cell is surrounded by a mucoid layer which prevents recognizability of its membrane antigens and, for its part moreover can inactivate or screen off both transformed lymphocytes and macrophages. The latter was published only a short while ago by Noble-prize winner, Francis Jacob of the Pasteur Institute. Earlier inclination was more to the opinion that these shielding complexes were products of humeral immune reactions so that the couple Hellstrom spoke of growth enhancement. English investigations of a latter date, also my own, have however made probable that at least a part of the shielding glycoprotein are formed on the cancer cells membranes by the cells themselves. They are related to the HCG (human chorinonic gonadotropin) as Jacob made known too. A certain kind of trophoblast atavism of the cancer cell is expressed therein. The shieldmucoid of the cancer cell differs very little from HCG only as far as it is clearly contaminated to a great degree with hydroxylamine-groups, whereby the recongnition of its antigens is made even worse and its immune blinding effect intensified.

The breaking down of this protecting shield around tumor cells is an extrordinarily important measure. This can be done by carrying out of the following operations:

a) Acidification of the blood, prefinal decompensating lactic acidosis works in the same way.

b) Actions of OH - radicals from radiation. Effective only for a limited time, about six weeks.

c) Heparinoids, e.g. Eleparon. Applied for this purpose by Elias in the Roswell Park Institute, Buffalo. Disadvantages: bound to injections, often nausea, liver damage not excluded when used over a long time.

d) Treatment with neuraminidase whereby the neuraminic acid-containing mucoids are split up. In vivo hardly practicable, but suitable for the manufacture of vaccines from tumor tissue.

e) Bromelain therapy. At present the method of choice. Principally introduced into the therapy by Gerard. He had also established that both proteolytic and glycolytic potentials from an enzyme

mixture obtained from the pineapple stem is needed to achieve an effect. This therapy can be carried out with Ananase (Rorer).

Recently BROMELAIN 200 Nadrol was specially created for this purpose. The used bromelain were tested out on animal tumors and human skin cancers in Hawaii, seat of the manufacturing plant. Dosage as a rule between 600 and 120 mg. a day. (III)

Undoubtedly there are more good development possibilities in the enzymatic deshielding therapy too. The Maori and Indians in the Amazonas area make use of highly effective abortive enzyme mixtures, which are not only more effective than Bromelain in the deshielding of the embryo but possibly also in that of cancer.

Vaccination with BCG, Tuberculin or the recent Maruyama vaccine already has a fixed place in cancer therapy in many places. I still prefer the use of BCG, because the reaction is not only therapeutically favorable but its intensity also possesses prognostic value. BCG intensifies the production of lysosomal enzymes in histiocytes and macrophages. By the way the enzymes themselves can be activated with Zinc-orotate (Nadrol) or Zinc Aspartate (Kohler) with the aim of damaging the tumor. Occasionally, I fall back on this method.

In the case of cancer patients I may carry out a whole-blood analysis of minerals and metals (Firma R. Bayer, 7 Stuttgart, Bopserserwaldstr.) Thereby on the whole the following deviations are found, which are therapeutically relevant according to analysis result: Decrease in phosphorus: Correction is absolutely necessary, administration of RECRESAL (Hoechst Albert). Decrease in zinc: It is equivalent to a loss of 'firing-ions' for the enzymes of cellular immune resistance. Substitution is absolutely necessary (Zinc-orotate Nadrol). If the zinc value drops under about 6mg/1, the cellular immune resistance weakens. A decrease in iron is only in need of limited treatment, since a lot of iron can be bound in the RES. An increase in copper is a direct indicator of the progression and aggressiveness of the malignant process. At all events copper retrotransport (Copperorotate Nadrol) is indicated as previously explained.

A decrease in potassium should be corrected; this is done the best with potassium-magnesium-asparaginate, because thereby the formation of energy-rich phosphate is additionally improved as, Nakahara was able to show. Furthermore, the potassium and magnesium in the food is better utilized.

An increase of calcium in the whole-blood is often associated with a phosphate deficiency and is an expression of a metabolically or even metastatically caused calcium loss from the bone system. Therapy with Calcium-orotate, which is transport active, and in the case of very severe hypercalcemia with Mitramysin if need be.

A decrease of aluminum in whole-blood sometimes suggests lung damage (formations of metastases or foregoing radiation). Therapeutically non-relevant.

It does occur that even in the case of severe and advanced cancer disease the whole-blood analysis reveals normal values, namely under two special conditions: Firstly, if the patient has blood group A and at the same time the membrane antigens of his cancer cells are of the A-type. Secondly, in the case of patients with breast carcinoma, who have undergone an adrenalectomy. It is mainly observed in the case of US-American patients. In both cases an immunologic tumor-host relationship largely seems to have ceased. This explanation alone does not suffice, for instance not for the lacking copper extrusion.

All I have written may serve to show the abundance of possibilities already today in medical, non-toxic cancer therapy and in which directions further advancements can be expected. All that may perhaps appear confusing here is relatively simple in practice, and least of all onerous for the patient. There is more possibility of interpreting modern scientific advancement to the optimum through individual medical skill again for the family physician. This is more scientific, more effective, more economical and more humane than good many kowtows in front of indigestible Mammoth Technology.

The accumulating therapeutic results we have, and of which an account will be given at some future date, speak in behalf of the progressiveness of the course here adopted.

Summary:

Hitherto existing procedures in cancer therapy and toxic chemotherapy receive critical appreciation.

Prospects of a fairly satisfactory control of cancer disease, from which we are still far off, can principally be expected from the modern non-toxic long time treatment of cancer disease, introduced here in part for the first time in the frame of a therapy program. The trend of modern research in this field greatly increases the future role of the family physician in the treatment of cancer.

I) Stjernsward recently reported in Berne that the lack of a long-time protective effect of radiatioafter surgical removal of a breast is only true for postmenopausal women. In premenopausal women radiation after breast cancer results in a shorter life expectancy than just no therapy.

II) Recently in Science Journal, Segerling et al from the NCI reported that certain chemotherapeutic anticancer drugs increase the vulnerability of cancer cells in front of defensive immune reactions. On the average 5-Fluoro-Uracil proved to be most effective in this respect, in contrast to the alkylating agents like e.g. Cyclophosphamide. This is the reason why we combine our immune regimen with applications of 5-FU at subtoxic levels, e.g. 500 mg. per week.

III) During the last months we have found that the clinical results with Bromelain dramatically improve once we are able to administer more than 1.6 grams per day orally, for indefinite time. This cannot be achieved with Ananase 100 (Traumanase forte) since already a daily of 600 mg. results in severe colic irritations after four to ten weeks of treatment. In contrast to this the new *Bromelain 200 (Nadrol) due to a sophisticated processing can be given at doses up to 2.0 and 2.4 grams per day for several months without any noticeable side effect due to the drug. Only decomposing of too much muciod 'shielding material' sometimes may result in shivering or palpitation. The percent rate of resorption of Bromelain 200 is only slightly less then that of Ananase.

We also have to mention that in contrast to some others we have observed a noticeable therapeutic effect of Wobe-Mugos, which is an enzyme mixture without bromelain. A few exceptions seem to be patients who received huge amounts of very impractical rectal applications.

We have the feeling that Bromelain 200 (Nadrol) represents a very important step forward in the successful deshielding therapy of cancer, provided that the various defense mechanisms of the

organism have not suffered too much damage and still have the capacity of overcoming an important quantity of antigen - and tumor mass.

This is very much in accordance with recent reports give by Francois Jacob, Taussig, and other researchers in the cancer deshielding field.