Komplementärmedicinsk cancerbehandling

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Cancerstatistik i Sverige

- År 2003 fick 41390 personer diagnosen cancer
- De senaste 20 åren har antalet cancersjuka ökat kontinuerligt med 1,3% för män och 1,1% för kvinnor
- Cirka hälften av ökningen beror på förändringar i populationen (vi blir äldre)
- Vad beror den andra hälften på?
- Mest ökar lung-, hud- och prostatacancer

Vad orsakar cancer?

a) den klassiska hypotesen

Mutationsteorin:

-arvsmassan DNA skadas av kemiska ämnen och skadliga strålar.

-skadan gör att cellen förökar sig i högre takt, bildar en svulst = tumör, blir „odödlig“ och bildar dottertumörer s.k. metastaser genom avknoppning.

-det genetiska arvet står för ca 5% av orsakerna

Skolmedicinska behandlingar

- Tumören ska avlägsnas, då själva svulsten anses vara sjukdomen/problemet
- Kirurgisk behandling: „skära“
- Radiologisk behandling (strålbehandling med joniserande strålar): „bränna“
- Farmakologisk behandling:

a) cellgifter: „förgifta“

b) antihormoner: blockera

c) kärlbildningshämmare: „strypa“

d) Nya metoder: antikroppar, vacciner, m.m.

Behandlingar som baserar pa „vetenskaplig evidens“: Vad är evidens?

- Int J Technol Assess Health Care. 2001 Fall;17(4):457-66. Related Articles, Links
- **Reviewing the reviews. How strong is the evidence? How clear are the**
- **conclusions?**
- **Ezzo J, Bausell B, Moerman DE, Berman B, Hadhazy V.**
- University of Maryland, USA.
- OBJECTIVES: The objectives of this paper were: a) to determine what can be learned from
- conclusions of systematic reviews about the evidence base of medicine; and b) to determine
- whether two readers draw similar conclusions from the same review, and whether these
- match the authors' conclusions. METHODS: Three methodologists (two per review) rated
- 160 Cochrane systematic reviews (issue 1, 1998) using pre-established conclusion
- categories. Disagreements were resolved by discussion to arrive at a consensual score for
- each review. Reviews' authors were asked to use the same categories to designate the
- intended conclusion. Interrater agreements were calculated. **RESULTS: Interrater**
- **agreement between two readers was 0.68 and 0.72, and between readers and authors, 0.32.**
- **The largest categories assigned by methodologists were "positive effect" (22.5%),**
- **"insufficient evidence" (21.3%), and "evidence of no effect" (20.0%). The largest**
- **categories assigned by authors were "insufficient evidence" (32.4%), "possibly**
- **positive" (28.6%), and "positive effect" (26.7%). CONCLUSIONS: The number of reviews**
- **indicating that the modern biomedical interventions show either no effect or insufficient**
- **evidence is surprisingly high. Interrater disagreements suggest a surprising degree of**
- **subjective interpretation involved in systematic reviews.** Where patterns of disagreement
- emerged between authors and readers, authors tended to be more optimistic in their
- conclusions than the readers. Policy implications are discussed.

Öppna frågor eller problem med standardbehandlingen

- **Kirurgisk behandling** av cancer bygger på en dogma: att avlägsna tumören i sin helhet botar eller förlänger livet (Dr.Theodor Billroth, Dr.Stewart Hallsted sekelskiftet, inte vetenskapligt bevisat med RCT= randomised controlled trial)
- **Radioterapi** har betydelsefulla biverkningar, (bl.a. hud-, lymf-, blod-, nerv- och cellskador, mutationer)
- **Cellgiftsbehandling**: har goda resultat vid lymfom, leukemi, testikelcancer. För övrigt är resultaten långt ifrån ”bra”

The contribution of cytotoxic chemotherapy to 5-year survival in adult malignancies.

Clin Oncol (R Coll Radiol). 2004 Dec;16(8):549-60. Morgan G, Ward R, Barton M.

Department of Radiation Oncology, Northern Sydney Cancer Centre, Royal North Shore Hospital, Sydney, NSW, Australia. gmorgan1@bigpond.net.au

AIMS: The debate on the funding and availability of cytotoxic drugs raises questions about the contribution of curative or adjuvant cytotoxic chemotherapy to survival in adult cancer patients. MATERIALS AND METHODS: We undertook a literature search for randomized clinical trials reporting a 5-year survival benefit attributable solely to cytotoxic chemotherapy in adult malignancies. The total number of newly diagnosed cancer patients for 22 major adult malignancies was determined from cancer registry data in Australia and from the Surveillance Epidemiology and End Results data in the USA for 1998. For each malignancy, the absolute number to benefit was the product of (a) the total number of persons with that malignancy; (b) the proportion or subgroup(s) of that malignancy showing a benefit; and (c) the percentage increase in 5-year survival due solely to cytotoxic chemotherapy. The overall contribution was the sum total of the absolute numbers showing a 5-year survival benefit expressed as a percentage of the total number for the 22 malignancies.

RESULTS: The overall contribution of curative and adjuvant cytotoxic chemotherapy to 5-year survival in adults was estimated to be 2.3% in Australia and 2.1% in the USA.

CONCLUSION: As the 5-year relative survival rate for cancer in Australia is now over 60%, it is clear that cytotoxic chemotherapy only makes a minor contribution to cancer survival. To justify the continued funding and availability of drugs used in cytotoxic chemotherapy, a rigorous evaluation of the cost-effectiveness and impact on quality of life is urgently required.

Metastaserad bröstcancer:
ingen förlängning av överlevnadstiden sedan 20 år

- Schlesinger-Raab, Anne; Eckel, Renate; Engel, Jutta; Sauer, Hansjörg; Löhrs, Udo; Molls, Michael; **Hölzel**, Dieter
- Metastasiertes Mammakarzinom: Keine Lebensverlängerung seit 20 Jahren
- Deutsches Ärzteblatt 102, Ausgabe 40 vom 07.10.2005, Seite A-2706 / B-2280 / C-2154
  MEDIZIN
-

Summary
Metastasized breast cancer: no improvement of life expectancy in the past two decades
Whether treatment of advanced metastasized cancer has led to substantial improvement of survival in the last 20 years, is discussed controversially. Results of the Munich Cancer Registry in metastasized breast cancer are presented in detail. Multivariate analysis
emonstrates that survival after metastases is significantly related to age, grade, receptor status and survival time without metastases. In contrast survival has not been influenced by time of diagnosis of the primary tumour or of the metastasis and of the treating institution in 20 years. The literature displays survival rates after metastases with only remote variation over the past 40 years. The treatment results are comparable with the literature. In addition the benefit of mammography screening and adjuvant treatment can be demonstrated convincingly with the same data source.

Key words: breast cancer, metastasis, life expectancy, documentation, cancer registry

New estrogen breast cancer role discovered

CHAMPAIGN, Ill., Jan. 24 (UPI) -- **U.S. scientists have found estrogen not only enhances the growth and migration of breast cancer cells, but also shields the cells from immune cells.**

The University of Illinois medical researchers, in what's described as the first study of its kind, discovered **the hormone estrogen induces the expression of an inhibitor that blocks immune cells' ability to kill tumor cells.**

The scientists analyzed estrogen's role in the cascade of events that occurs when immune cells, called natural killer cells, encounter a tumor cell. Normally, natural killer cells release granules that contain enzymes called granzymes, which enter and kill the tumor cell.

But the researchers found when estrogen binds with an estrogen receptor the complex promotes production of a granzyme inhibitor, proteinase inhibitor 9 (PI-9). That inhibitor binds the granzyme, preventing it from initiating the molecular cascade that kills tumor cells.

"It wasn't known estrogen could do this in breast cancer cells," said principal investigator David Shapiro, a UI professor of biochemistry. "The amounts of estrogen required to do this are quite small."

The study conducted by Shapiro, graduate student Xinguo Jiang and collaborators from the University of Wisconsin, is detailed online in the journal Oncogene.

Komplementärmedicinska teorier:
tumören har signalkaraktär
individens självläkeförmåga behöver stärkas

- Mitokondrie-teorin (Warburg/Kremer m.fl.)
- Immunsystemets betydelse
- Dr.Kousmine´s toxin-teori
- Konflikt-teori/ Psykoonkologi
- Frekvens-teori (Dr.R.Rife 1930-talet, Prof.F.Popp 1980-idag, m.m.)
- Syra-bas teori (cancern gynnas av försurning i vävnaden)
- Teorier om bakterier och parasiters betydelse (Enderlein, Clark, Enby m.m.)

The Nobel Prize in Physiology or Medicine 1931

Otto Heinrich Warburg

Germany

Kaiser-Wilhelm-Institut (now Max-Planck-Institut) für Biologie
Berlin-Dahlem, Germany

b. 1883
d. 1970

- For his discovery of the nature and mode of action of the respiratory enzyme, the Nobel Prize has been awarded to him in 1931. This discovery has opened up new ways in the fields of cellular metabolism and cellular respiration. He has shown, among other things, *that cancerous cells can live and develop, even in the absence of oxygen.*

Dr.Cathrine Kousmine

rysk-schweizisk läkare 1904-1992 www.kousmine.com (på franska)

- Injicerade friska och cancersjuka möss olika mängder gifter och kom fram till att:
- Cancern är ett slags extra „avgiftningsorgan“ som en toxisk belastad organism skapar för att få en effektivare avgiftning, vilken dock kan leda till döden
- Cancern uppfyller en funktion som behöver ersättas med effektivare avgiftning, tarmsanering och bra näring.
- Skrev flera böcker och
  12 publikationer 1951-1962

Vår cancerhypotes

- Cancer är en mulitfaktoriel **energibristsjukdom**
- Energibristen leder till en överproduktion av primitiva celler med ett ”överlevnadsprogram”
- Detta överlevnadsprogram gör att cancercellen klarar sig ”ett tag” i en döende värdorganism
- Behandlingen måste utgå från cancercellens omgivning eller miljö för att förbättra hela organismens vitalitet och ”avskaffa” behovet av cancercellernas speciella ”sjuka” överlevnadsstrategier

Komplementärmedicinska behandlingar

- Återskapa balans i organismen genom:
- Avgiftning: rensa matrisen = mellancell-rummet
- Tillhandahålla energi med bra näring och kosttillskott, magnetterapi, värme, ljusterapi
- Förbättra immunfunktionen
- Konfliktbearbetning/ stressreduktion: genom mental träning, kognitiv terapi, visualisering, meditation (Simonton, Siegel, Unestål m.m.)
- Rörelseterapier: Chi gong, läkeeurytmi

Frisk eller sjuk cellkommunikation

- En organism omfattar en helhet av celler och omgivande miljöer som kommunicerar med varandra på olika sätt: genom elektroner, signalsubstanser och även genom ljussignaler
- För att förstå en störning i organismen (sjukdom) behöver vi lära oss hur
- a) cellen ser ut och
- b) hur cellens omgivning ser ut och
- c) kommunikationen mellan cellerna
- Mellanrummet mellan alla celler kallas för matrix, eller extracellulärt rum

Fel i cellens energiproduktion

- I en frisk cell omvandlas hela tiden ADP i ATP, cellens universella energimolekyl med hjälp av syret
- Syret blir en slutgiltig elektronmottagare för överblivna elektroner
- Denna „oxidativa fosforylering“ äger rum i mitokondrierna

- När ett cancerogent ämne blockerar detta övergår cellen i desperation till ett mera primitivt sätt att överleva: glykolys
- Cellen producerar nu bara 30% av sin ursprungliga energi: 12 i stället för 38 ATP per glukosmolekyl
- Cellen blir „glukosberoende“

Cancercellen: den primitiva sockerberoende „desertören“ har 6 gåtfulla egenskaper:

- Cancercellen är „halvdöd“ och behöver mera socker
- Glykoproteiner som är signalöverföringsenheter tas från cellmembranets yta
- Cellen blir „autistisk“ och avskuren från omgivningens kontrollsignaler: en „desertör“ (Prof. Fritz Popp)

- 1) Celldelning utan yttre tillväxtsignaler
- 2) Tillväxt trots stoppsignaler från omgivningen
- 3) Avstängd apoptos-(celldöds-) program
- 4) Stimulation av kärlnybilding
- 5) Potentiell odödlighet
- 6)Invaderar omgivningen, metastasering

Dr. Heinrich Kremer

Hälsans ”tempel” vilar på fyra pelare:

- Bra näring
- Biokemisk balans
- Bra immunfunktion
- Mental- emotionell balans

Dr.Budwigs diet

- Dr.Johanna Budwig
  1904 -2003
- Tillskott av 2 matskedar linfröolja per dag (omega-3 fetter) blandat med färskost (kvarg) förbättrar syreomsättningen i cellerna, som behövs för energiproduktionen

Komplementärmedicinska metoder som har vetenskapligt stöd

Prof.Josef Beuth: Grundlagen der Komplementäronkologi

- Dietråd
- Motion
- Psykolonkologisk rådgivning/terapi
- Vitaminsubstitution (A-, C-, E-vitamin)
- Antioxidatier: Na-selenit
- Enzymterapi
- Mistelterapi (Iscador/ Helixor m.m.)
- Hypertermi
- Anticancerogener: curcuma, quercetin, m.fl.

C-Vitamin högdosbehandling:

- Sedan kemisten och nobelpristagaren Linus Paulings bok om cancer och C-Vitamin har diskussioner förts om huruvida höga doser av C-vitamin kan bidra i behandlingen av cancer. I skolmedicinska studier som har använt sig av för låga doser och fel applikationsform (oralt i stället för som dropp direkt in i venen) har ingen effekt på cancertumörer setts. I aktuella studier som publicerades hösten 2005 har intressanta effekter verifierats, som framställer höga doser C-vitamin som ett ämne som skadar cancerceller i höga doser utan att skada friska celler. För att uppnå terapeutiskt relevanta doser C-vitamin behöver man ge infusioner med 15-60g C-vitamin i koksaltlösning i en pH-neutral form, s.k. natriumaskorbat. Infusionerna ges i regel 2-3 ggr. i veckan.
- För bröstcancer kunde en förbättrad läkemedelstolerans och en förlängd livstid visas (Braschoss A et al 2006)

- Chen Q, Espey MG, Krishna MC, Mitchell JB, Corpe CP, Buettner GR, Shacter E, Levine M.
Pharmacologic ascorbic acid concentrations selectively kill cancer cells: action as a pro-drug to deliver hydrogen peroxide to tissues.
Molecular and Clinical Nutrition Section, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD 20892, USA, Proc Natl Acad Sci U S A. 2005 Sep 20;102(38):13604-9. Epub 2005 Sep 12
- *Cancer and Vitamin C (Updated and Expanded Edition)*, by Ewan Cameron and Linus Pauling. Philadelphia: Camino Books, 1993

Antioxidants and other nutrients do not interfere with chemotherapy or radiation therapy and can increase kill and increase survival, Part 2.

Simone CB 2nd, Simone NL, Simone V, Simone CB.
Simone Protective Cancer Institute in Lawrenceville, NJ, USA.

- PURPOSE: Some in the oncology community contend that patients undergoing chemotherapy and/or radiation therapy should not use food supplement antioxidants and other nutrients. Oncologists at an influential oncology institution contended that antioxidants interfere with radiation and some chemotherapies because those modalities kill by generating free radicals that are neutralized by antioxidants, and that folic acid interferes with methotrexate. This is despite the common use of amifostine and dexrazoxane, 2 prescription antioxidants, during chemotherapy and/or radiation therapy. DESIGN: To assess all evidence concerning antioxidant and other nutrients used concomitantly with chemotherapy and/or radiation therapy. The MEDLINE and CANCERLIT databases were searched from 1965 to November 2003 using the words vitamins, antioxidants, chemotherapy, and radiation therapy. Bibliographies of articles were searched. All studies reporting concomitant nutrient use with chemotherapy and/or radiation therapy (280 peer-reviewed articles including 62 in vitro and 218 in vivo) were indiscriminately included. RESULTS: Fifty human clinical randomized or observational trials have been conducted, involving 8,521 patients using beta-carotene; vitamins A, C, and E; selenium; cysteine; B vitamins; vitamin D3; vitamin K3; and glutathione as single agents or in combination. **CONCLUSIONS: Since the 1970s, 280 peer-reviewed in vitro and in vivo studies, including 50 human studies involving 8,521 patients, 5,081 of whom were given nutrients, have consistently shown that do not interfere with therapeutic modalities for cancer. Furthermore, non-prescription antioxidants and other nutrients enhance the killing of therapeutic modalities for cancer, decrease their side effects, and protect normal tissue. In 15 human studies, 3,738 patients who took non-prescription antioxidants and other nutrients actually had increased survival.**

Oncol Rep. 2007 Jan;17(1):209-16. Links

Enhanced lung cancer cell killing by the combination of selenium and ionizing radiation.

Shin SH, Yoon MJ, Kim M, Kim JI, Lee SJ, Lee YS, Bae S.

- Laboratory of Radiation Effect, Korea Institute of Radiological and Medical Sciences, Seoul 139-706, Korea.

- Selenium has been associated with anticancer activity by affecting multiple cellular processes. We reasoned that the simultaneous modulation of multiple radioresponse regulators by selenium should increase radiosensitivity if selenium is combined with radiation in cancer therapy. Therefore, we explored the possibility of whether we could obtain an enhancement of radiosensitivity by the combination of selenium and ionizing radiation. We used two human lung cancer cell lines, NCI-H460 and H1299, as well as a human diploid lung fibroblast, WI-38, as the normal cell counterpart. The combined treatment of the cancer cell lines with Seleno-methionine and ionizing radiation resulted in increased cell killing as assessed by clonogenic survival assay whereas it had little effect on the normal diploid WI-38 cells. The increased radiosensitivity in the cancer cells was correlated with the attenuation of the key proteins involved in either cell survival signaling [Akt, EGFR (epidermal growth factor receptor), ErbB2 and Raf1] or DNA damage response (Mre11, Rad50, Nbs1, Ku80, 53BP1 and DNAPK). The attenuation of the proteins by the selenium compound was possibly caused by the effect on transcription and on protein stability since selenium treatment decreased both the RNA transcript and the protein stability of EGFR and DNAPK. By contrast, Seleno-L-methionine had no effect on the protein profile of a normal diploid fibroblast which is consistent with an intact radiosensitivity. These data provide possible clinical applications, as selenium selectively enhanced the radiosensitivity of the tumor cells whereas that of the normal cells was unaffected. Moreover, the selective decrease of cell proliferation signaling in tumor cells but not in normal cells should facilitate the repopulation of normal cells required for healing during radiation therapy. **On the whole, the results suggest that the cancer preventive activity of selenium can be combined with ionizing radiation to improve the control of lung cancer.**

Enzymer i cancerbehandlingen

- Cancer Chemother Pharmacol. 2001 Jul;47 Suppl:S45-54.
  - Impact of complementary oral enzyme application on the postoperative treatment results of breast cancer patients--results of an epidemiological multicentre retrolective cohort study.

Beuth J, **Ost B**, **Pakdaman A**, **Rethfeldt E**, **Bock PR**, **Hanisch J**, **Schneider B**.

Institute for Scientific Evaluation of Naturopathy, University of Cologne, Koln, Germany.

PURPOSRE: To evaluate the impact of postoperative treatment with an oral enzyme (OE) preparation given complementary to an antineoplastic therapy in patients with breast cancer. METHODS: The design of this epidemiological study was a retrolective cohort analysis with parallel groups. Design and conduct of the study were performed to current standards for prospective, controlled clinical trials. A cohort of 2,339 breast cancer patients undergoing surgical intervention and radio-, chemo- or hormonal therapy were studied in 216 centres. Of the 2,339 patients, 1,283 received complementary treatment with OE and 1,056 did not receive OE. Patients with other complementary medications were excluded and the final analysis was performed with the data from 649 patients, of whom 239 (37%) were additionally treated with OE (test group) and 410 (63%) without OE (control group). The median follow-up time for the test group was 485 days and for the control group 213 days. The primary endpoint of the study was to determine whether complementary treatment with OE can reduce typical disease- or therapy-associated signs and symptoms (gastrointestinal symptoms, mental symptoms, dyspnoea, headache, tumour pain, cachexia, skin disorders, infections, and side effects associated with the antineoplastic therapy) in patients with breast cancer. Imbalances for causal effects (covariates) were adjusted for by means of the propensity score. Outcome analysis was performed by estimating the linear regression between change in symptom score and propensity score with all data and using this regression line to calculate the change in symptom score which would be expected for each patient. Tumour-associated events (recurrence, metastasis, and death) were evaluated in terms of the number of events observed and time to event. The safety of treatment with OE was analysed in terms of the number and severity of adverse events, their duration, treatment and outcome. RESULTS: For all symptoms except tumour pain, the adjusted mean improvement in symptom scores was larger in the test group than in the control group. The adjusted difference was statistically significant for all symptoms, except tumour pain and infections.

The **results** show that the typical disease- and therapy-associated signs and symptoms in patients on complementary therapy with OE during postoperative treatment were significantly less. **For 75% of the test group and 55% of the control group the physician recorded "no signs and symptoms".**
A clear reduction in the side effects of radiotherapy and chemotherapy was documented in 74% of the test group and 55% of the control group. Analysis of survival, recurrence, and metastasis demonstrated a reduced number of events in the test group. There was evidence of a beneficial influence of OE on time to event, although the median observation time was too short in these breast cancer patients to draw definite conclusions. The safety component was judged in 98% of the test group and 76% of the control group as "very good" or "good". In the total sample of 2,339 patients, the rate of OE-associated adverse reactions was 3.2%. All side effects were mild to moderate gastrointestinal symptoms. Conclusion: Complementary treatment of breast cancer patients with OE improves the quality of life by reducing signs and symptoms of the disease and the side effects of adjuvant antineoplastic therapies. This epidemiological retrolective cohort analysis provides evidence that the patients may also gain benefit by a prolongation of the time to event for cancer recurrence, metastasis and survival. OE was generally well tolerated.

Komplementärmedicinsk Bröstcancerbehandling

utvärdering av 274 patienter under 12 år

Dr. Achim Schuppert, Naturheilkunde 1/2005, 22-24

- 50% lymfkörtel positiv
- 30% metastaserad ca

Terapier:

- O_2 terapi
- Enzymer
- Selen
- Mistel
- Tymusextrakt
- Hypertermi

- 86% lever efter 12 år
- 84% utvecklade inga metastaser

5-års överlevnads tid:

91% av de primär metastasfria patienterna

68% av de patienter med metastaser

Genomsnittlig statistisk överlevnadsandel:

5år: 50%, 10 år: 30%

Citat Dr. Achim Schuppert, Bonn, Tykland:

„Att inte ta de psykiska faktorerna i beaktning verkar vara en väsentlig orsak för dåliga terapiresultat….

Min uppfattning är att de dåliga resultat som vi har idag beror å ena sidan på en för intensiv och biverkningsrik terapi (cellgifter och strålning) och å andra sidan på en inte individuell anpassad efterbehandling efter operationen.“

Redifferentierings terapi enligt Dr. Heinrich Kremer

- Proteolytiska enzymer
- Omega-3 fettsyror
- Curcumin
- Quercetin (en bioflavinoid)
- Antioxidantier: Selen, E-vitamin
- Alpha liponsyra (en antioxidant)
- C-vitamin
- Resveratrol (bioflavonoid ur vindruvor)
- betacaroten

Över 600 vetenskapliga studier i PubMed om Curcumin som ”anticancer” medel

- Prostate Cancer Prostatic Dis. 2006 Jan 3

  The effects of curcumin on the invasiveness of prostate cancer in vitro and in vivo.

  Hong JH, Ahn KS, Bae E, Jeon SS, Choi HY.

  1Department of Urology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea.

- Cell Biol Int. 2005 Dec 21

  Antiproliferation and apoptosis induced by curcumin in human ovarian cancer cells.

  Shi M, Cai Q, Yao L, Mao Y, Ming Y, Ouyang G.

  Key Laboratory of China Education Ministry for Cell Biology and Tumor Cell Engineering, School of Life Sciences, Xiamen University, Xiamen 361005, China.

Immunoterapi

- Injektion av mistelextrakt
  Rudolf Steiner 1920-talet, antroposofisk medicin
  (Iscador®, Helixor®) genom apoteket i Sverige
- Dendritcellsvaccination
  (Prof. J.H.Peters Göttingen)
- Virus terapi (t.ex. Newcastel virus,
  Prof. Volker Schirrmacher, Heidelberg)

Antioxidants and Cancer: Quercetin

Davis W. Lamson, MS, ND, and Matthew S. Brignall, ND

Abstract: Quercetin is a flavonoid molecule ubiquitous in nature. **A number of its actions make it a potential anti-cancer agent,** including cell cycle regulation, interaction with type II estrogen binding sites, and tyrosine kinase inhibition. Quercetin appears to be associated with little toxicity when administered orally or intravenously. Much in vitro and some preliminary animal and human data indicate quercetin inhibits tumor growth. More research is needed to elucidate the absorption of oral doses and the magnitude of the anti-cancer effect..

(Altern Med Rev 2000;5(3):196-208)

Differential effects of Viscum album extract IscadorQu on cell cycle progression and apoptosis in cancer cells.

Int J Oncol. 2004 Dec;25(6):1521-9

Harmsma M, Gromme M, Ummelen M, Dignef W, Tusenius KJ, Ramaekers FC.
Department of Molecular Cell Biology, Research Institute for Growth and Development (GROW), University of Maastricht, The Netherlands. marjan.harmsma@molcelb.unimaas.nl

- Extracts from European mistletoe or Viscum album L. have been reported to exert cytotoxic and immunomodulatory effects in vitro and in vivo. The mechanism of this anti-tumoral activity is however, largely unknown. In this study we tested the hypothesis that IscadorQu, an aqueous fermented extract from the European mistletoe grown on oaks, induces tumor regression by cell cycle inhibition and/or interference with apoptotic signaling pathways in cancer cells. Also a possible effect on angiogenesis, which is a prerequisite for tumor growth in vivo, is studied in endothelial cell cultures. Furthermore, we examined which apoptotic signaling route is activated by staining cells for specific pro-apoptotic proteins. To characterize these properties, 6 different human cancer cell lines, one epidermis derived cell line and 2 endothelial cell cultures were incubated with different concentrations of IscadorQu. Cell cycle kinetics parameters were measured by bromodeoxyuridine (BrdU) pulse labeling and tubulin staining. Apoptotic responses were detected by M30 CytoDeath or Annexin V/propidium iodide assays. Characterization of the apoptotic pathway was performed by staining cells for active caspase 3, active caspase 8, cytochrome C and chloromethyl-X-rosamine. The results of this study show that sensitivity to IscadorQu treatment varies strongly between different cell lines. In sensitive cell lines, including tumor and endothelial cell cultures, IscadorQu caused early cell cycle inhibition followed by apoptosis in a dose-dependent manner. Apoptosis was induced by activating the mitochondrial but not the death receptor-dependent pathway.

Use of Iscador, an extract of European mistletoe (Viscum album), in cancer treatment: prospective nonrandomized and randomized matched-pair studies nested within a cohort study.

Altern Ther Health Med. 2001 May-Jun;7(3):57-66, 68-72, 74-6

Grossarth-Maticek R, Kiene H, Baumgartner SM, Ziegler R.

Institute for Preventive Medicine, European Center for Peace and Development, United Nations, Heidelberg, Germany

- CONTEXT: In anthroposophical medicine, total extracts of Viscum album (mistletoe) have been developed to treat cancer patients. The oldest such product is Iscador. Although Iscador is regarded as a complementary cancer therapy, it is the most commonly used oncological drug in Germany. OBJECTIVE: To determine whether Iscador treatment prolongs survival time of patients with carcinoma of the colon, rectum, or stomach; breast carcinoma with or without axillary or remote metastases; or small cell or non-small-cell bronchogenic carcinoma; and to explore synergies between Iscador treatment and psychosomatic self-regulation. DESIGN: Prospective nonrandomized and randomized matched-pair studies nested within a cohort study. SETTING: General community in Germany. PARTICIPANTS: 10,226 cancer patients involved in a prospective long-term epidemiological cohort study, including 1668 patients treated with Iscador and 8475 who had taken neither Iscador nor any other mistletoe product (control patients). INTERVENTION: Iscador. MAIN OUTCOME MEASURE: Survival time. RESULTS: In the nonrandomized matched-pair study, survival time of patients treated with Iscador was longer for all types of cancer studied. In the pool of 396 matched pairs, mean survival time in the Iscador groups (4.23 years) was roughly 40% longer than in the control groups (3.05 years; $P < .001$). Synergies between Iscador treatment and self-regulation manifested in a longer survival advantage for Iscador patients with good self-regulation (56% relative to control group; $P = .03$) than for patients with poor self-regulation. Results of the 2 randomized matched-pair studies largely confirmed the results of the non-randomized studies. CONCLUSION: Iscador treatment can achieve a clinically relevant prolongation of survival time of cancer patients and appears to stimulate self-regulation.

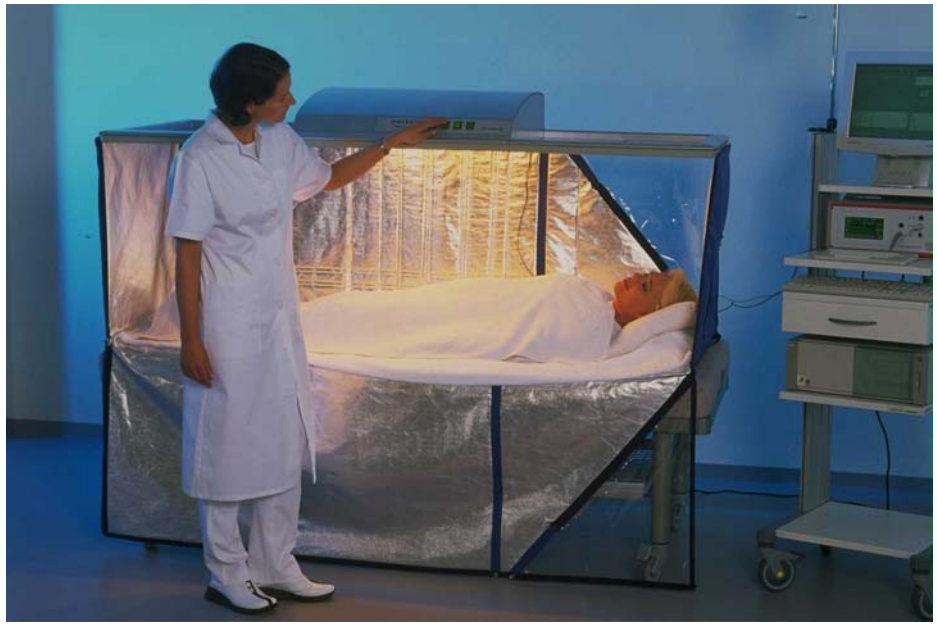
Hypertermi

- Termo-therapy: > 45°C
- direct cell destruction – övervärmar tumören massivt
- Extrem Hyperthermi 42°C
- tumör destruction via ett 10-tals mekanismer
- moderat „fever range“ Hyperthermi 39°-40,5°C förstäkrer effekten av cellgiftsbehandlingen, immunstimmulering
- Mild Hyperthermi: >38°-38,5°C
- immunmodulation
- Sub-klinisk Hyperthermi > 37°-38°C
- kärlvidgning, förbättrad blodflöde och syresättning

Helkropps –hypertermi

moderat „fever-range“

- 3-4 timmar 39-40,5°C
- Potentierar (stegrar) fördelningen och effekten av cellgifter
- Stimmulerar immunsystemet
- Stimmulerar cirkulationen och avgiftningen
- Befrämjar bearbetningen av djupare aspekter av sjukdomen



Lokalhypertermi med radiovåger

- Radiovågsteknink 13,5 MHz ger selektiv uppvärmning av tumören till 43°C
- Serier med 3 behandlingar i veckan över 4–5 veckor à 1 timme per gång (15 behandlingar)
- kan upprepas så många gånger som det gör nytta

Lokalhypertermi med infrarött ljus Hydrosun®

- För behandling av ytliga tumörer
- Hudcancer
- Hudmetastaser
- 20 eller fler behandlingar à 30-50min
- Uppnår yttemp. 47°C
- Når max 5cm under huden (ca 39 °C)

Hyperthermia in combined treatment of cancer

P Wust, B Hildebrandt, G Sreenivasa, B Rau, J Gellermann, H Riess, R Felix, and PM Schlag

Hyperthermia, the procedure of raising the temperature of tumour-loaded tissue to 40–43°C, is applied as an adjunctive therapy with various established cancer treatments such as radiotherapy and chemotherapy. The potential to control power distributions in vivo has been significantly improved lately by the development of planning systems and other modelling tools. This increased understanding has led to the design of multiantenna applicators (including their transforming networks) and implementation of systems for monitoring of E-fields (eg, electro-optical sensors) and temperature (particularly, on-line magnetic resonance tomography). Several phase III trials comparing radiotherapy alone or with hyperthermia have shown a beneficial effect of hyperthermia (with existing standard equipment) in terms of local control (eg, recurrent breast cancer and malignant melanoma) and survival (eg, head and neck lymph-node metastases, glioblastoma, cervical carcinoma). Therefore, further development of existing technology and elucidation of molecular mechanisms are justified. In recent molecular and biological investigations there have been novel applications such as gene therapy or immunotherapy (vaccination) with temperature acting as an enhancer, to trigger or to switch mechanisms on and off. However, for every particular temperature-dependent interaction exploited for clinical purposes, sophisticated control of temperature, spatially as well as temporally, in deep body regions will further improve the potential.

Lancet Oncol 2002; 3: 487–97

Hyperthermia is a therapeutic procedure used to raise the temperature of a region of the body affected by cancer (figure 1). It is administered together with other cancer treatment modalities (multimodal oncological strategies). The temperature increase required can be achieved by various methods.

Studies on cell cultures in vitro and on experimentally induced tumours in vivo in the early 1970s provided convincing justification for the clinical application of hyperthermia. The rationale is based on a direct cell-killing effect at temperatures above 41–42 °C.[1] However, the thermal dose–response relation varies among cell lines and depends, furthermore, on microenvironmental factors such as pH.[2] After a heat shock, all cell types show increased thermoresistance for 24–48 h (thermotolerance). The required temperatures derived from the preclinical data are not achieved under clinical conditions. Therefore, other mechanisms of heat may be relevant.

A synergistic interaction between heat and radiation dose as well as various cytostatic treatments has been validated in preclinical studies.[3,4] This thermosensitisation is

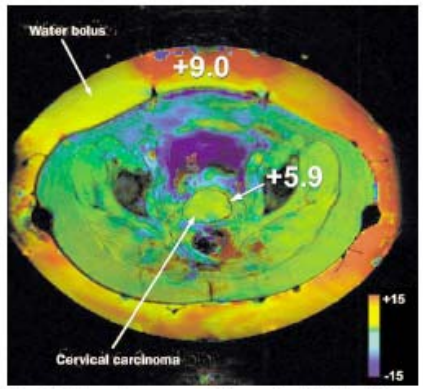


Figure 1. Non-invasive measurement of temperature distribution in the hybrid hyperthermia applicator.

effective even below 41°C. Here, as found in preclinical experiments, the time between treatments and the sequence of operation are important.[5] For the combination of radiotherapy and hyperthermia, the effect is greatest for simultaneous application, but this is not feasible in clinical practice. Several types of interaction of heat with chemotherapeutic drugs have been found,[4] such as supra-additive (alkylating agents, platinum compounds), threshold behaviour (doxorubicin), and independent or additive (fluorouracil, taxanes, vinca alkaloids). The synergistic effect in vitro can be several powers of ten even at moderate temperatures (eg, for cisplatin).

The molecular-biological mechanisms of these effects are still under investigation. Various targets in the cell affected by rises in temperature have been found, such as membranes, the cytoskeleton, synthesis of macromolecules, and DNA repair.[7,8] The expression of several genes can be upregulated or downregulated by heat, for example, the family of heat-shock proteins (HSP).[9] Expression of other genes modulated by heat is yet to be discovered (eg, the

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Synergistisk effekt mellan hypertermi och standardterapier: cellgifter/strålning

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Psykoonkologiska metoder

- Avslappning: autogen träning, andningsövningar, kroppsterapier
- Visualisering: Simonton metoden
- Meditation: olika individuell anpassade metoder
- Mentalträning: kognitiv terapi, ”trossatsarbete”

Att ersätta sjukdomsalstrande övertygelser och trossatser med helande, sanna, sunda affirmationer

Studier om psykoterapi med cancerpatienter

- Arch Gen Psychiatry. 1993 Sep;50(9):681-9
  - **Malignant melanoma. Effects of an early structured psychiatric intervention, coping, and affective state on recurrence and survival 6 years later.**
    Fawzy FI, Fawzy NW, Hyun CS, Elashoff R, Guthrie D, Fahey JL, Morton DL. Department of Psychiatry, UCLA School of Medicine.

    OBJECTIVES: We evaluated recurrence and survival for 68 patients with malignant melanoma who participated in a 6-week structured psychiatric group intervention 5 to 6 years earlier, shortly after their diagnosis and initial surgical treatment. We also explored the role of several factors as possible predictors of outcome. DESIGN: This was a randomized controlled experimental study. The Cox proportion hazards regression model was used to quantify the relationship between treatment and the outcomes adjusted by the covariates (age, sex, Breslow depth, tumor site, baseline Profile of Mood States Total Mood Disturbance, baseline active-behavioral coping, baseline natural killer cell activity, and treatment [ie, group intervention]). The stepwise procedure was used for covariate selection.
  - RESULTS: For control patients, there was **a trend for recurrence (13/34) and a statistically significant greater rate of death (10/34) than for experimental patients (7/34 and 3/34, respectively).**
  - We found that being male and having a greater Breslow depth predicted greater recurrence and poorer survival. Analysis of multiple covariates found that only Breslow depth and treatment (ie, group intervention) were significant. Adjusting for Breslow depth, treatment effect remained significant. Finally, baseline affective distress and baseline coping were significant psychobehavioral predictors for recurrence and survival. Surprisingly, higher levels of baseline distress as well as baseline coping and enhancement of active-behavioral coping over time were predictive of lower rates of recurrence and death. CONCLUSION: **Psychiatric interventions that enhance effective coping and reduce affective distress appear to have beneficial effects on survival** but are not proposed as an alternative or independent treatment for cancer or any other illness or disease. However, the exact nature of this relationship warrants further investigation.

Vem styr i mitt liv?

- Den viktigaste relationen jag har i mitt liv är relationen till mig själv
- Den största konflikten jag kan ha i mitt liv är konflikten mellan mig och mig själv
- JAG = hur jag upplever mig, vad jag gör, vad jag har, mitt ”skal” eller pseudo-jag
- JAG SJÄLV= den jag i sanning är, mitt sanna JAG
- DU = den jag möter och utvecklar mig tillsammans med i ett fritt givande och tagande med acceptans och utan att döma

Komplementärmedicinska cancerbehandlingsstrategier

- Ju tidigare patienten kompletterar sin skolmedicinska cancerbehandling med KM metoder, desto större är chansen att behandlingen blir bra!
- Bäst: profylax!
- Nästbäst: sekundärprofylax, efter en framgångsrik cancerbehandling, stärka hela organismen på alla fyra nivåer, för att förebygga recidiv
- Nästbäst: om cellgifts- eller strålningsbehandlingen pågår, kombinera med KM metoder, fram för allt hypertermi, hög-dos i.v. c-vitamin, antioxidanter, psykoterapi/mentalträning
- Vanligast: patienten kommer då alla skolmedicinska behandlingar inte kunnat stoppa cancertillväxten. Organismen är svår belastad genom cellgifter/ strålning/ kirurgi och dödsångest, cancer har spridit sig till ett eller fler organ. - I dessa fall bör alla gångbara behandlingsmetoder läggas ihop för att eftersträva en stark synergieffekt. Patienten behöver motivation och bra ekonomi för att finansiera en intensiv KM behandling.

Tack för ert intresse och ert samarbete!

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