

Existují bezpečné a účinné doplňky ke standardní onkologické léčbě?

Doc. MUDr. Marián Hajdúch, PhD.

ředitel

Ústav molekulární a translační medicíny LF UP

spoluzakladatel a místopředseda Správní rady
Nadace pro výzkum rakoviny ČR

Definice

“Komplementární a alternativní medicína představují rozmanitou skupinu postupů a produktů, které v současnosti nejsou považovány za součást konvenční medicíny”

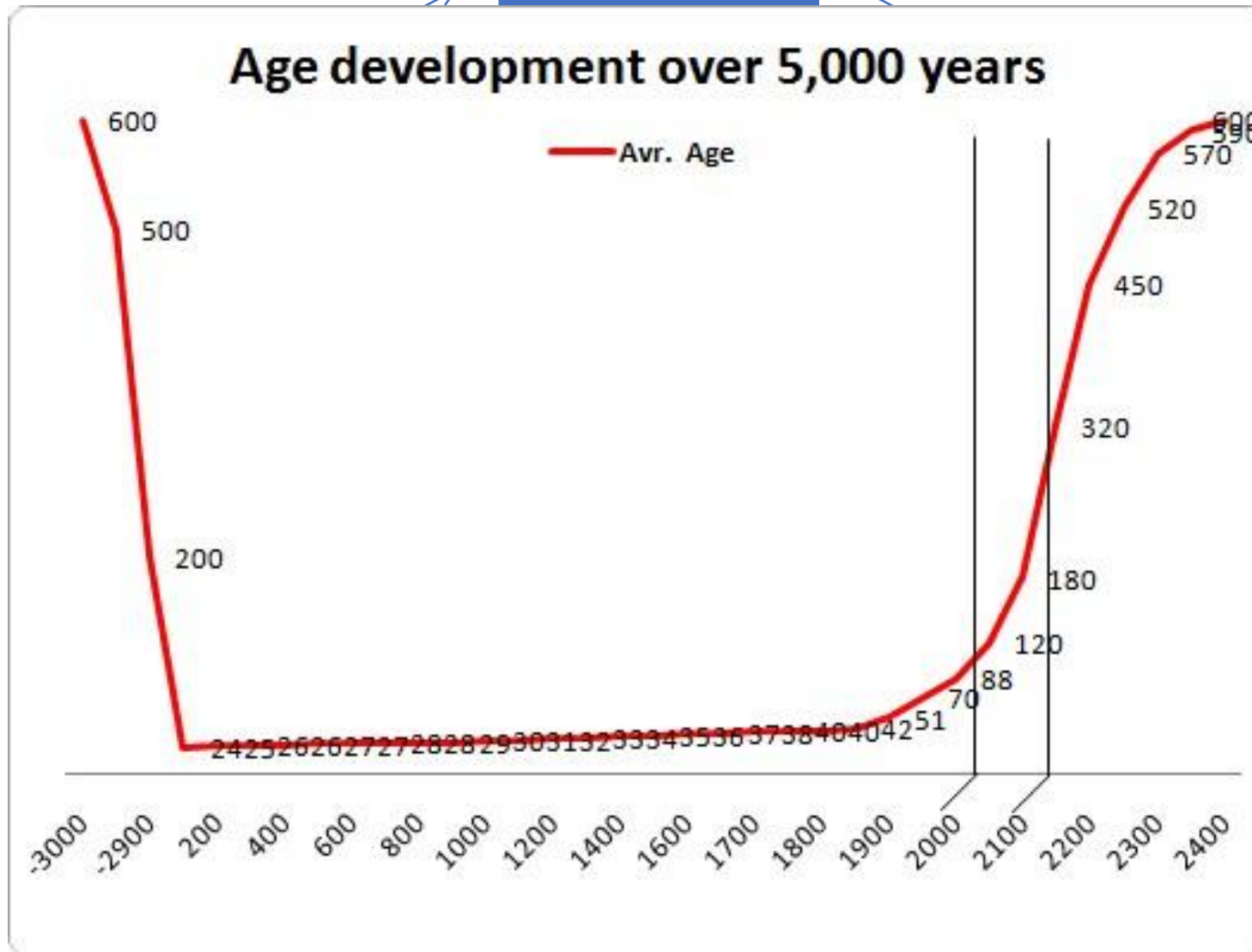
Definice

“Komplementární medicína **doplňuje** konvenční medicínu a jejich postupy se používají společně.”

naproti tomu

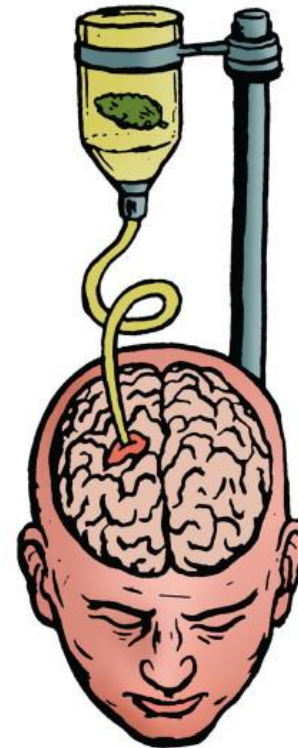
“Alternativní medicína **nahrazuje** léčební postupy konvenční medicíny.”

2000 let před n.l.:
Sněž tento kořen



neudívejte, pošli tuto
tablet!

Alternativní medicína – atraktivní zkratka



Rizika spojená s odmítnutím konvenční léčby a preferencí alternativní terapie



JNCI J Natl Cancer Inst (2018) 110(1): djx145

doi: 10.1093/jnci/djx145

First published online August 10, 2017

Brief Communication

BRIEF COMMUNICATION

Use of Alternative Medicine for Cancer and Its Impact on Survival

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Abstract

There is limited available information on patterns of utilization and efficacy of alternative medicine (AM) for patients with cancer. We identified 281 patients with nonmetastatic breast, prostate, lung, or colorectal cancer who chose AM, administered as sole anticancer treatment among patients who did not receive conventional cancer treatment (CCT), defined as chemotherapy, radiotherapy, surgery, and/or hormone therapy. Independent covariates on multivariable logistic regression associated with increased likelihood of AM use included breast or lung cancer, higher socioeconomic status, Intermountain West or Pacific location, stage II or III disease, and low comorbidity score. Following 2:1 matching (CCT = 560 patients and AM = 280 patients) on Cox proportional hazards regression, AM use was independently associated with greater risk of death compared with CCT overall (hazard ratio [HR] = 2.50, 95% confidence interval [CI] = 1.88 to 3.27) and in subgroups with breast (HR = 5.68, 95% CI = 3.22 to 10.04), lung (HR = 2.17, 95% CI = 1.42 to 3.32), and colorectal cancer (HR = 4.57, 95% CI = 1.66 to 12.61). Although rare, AM utilization for curable cancer without any CCT is associated with greater risk of death.

Rizika spojená s odmítnutím konvenční léčby a preferencí alternativní terapie

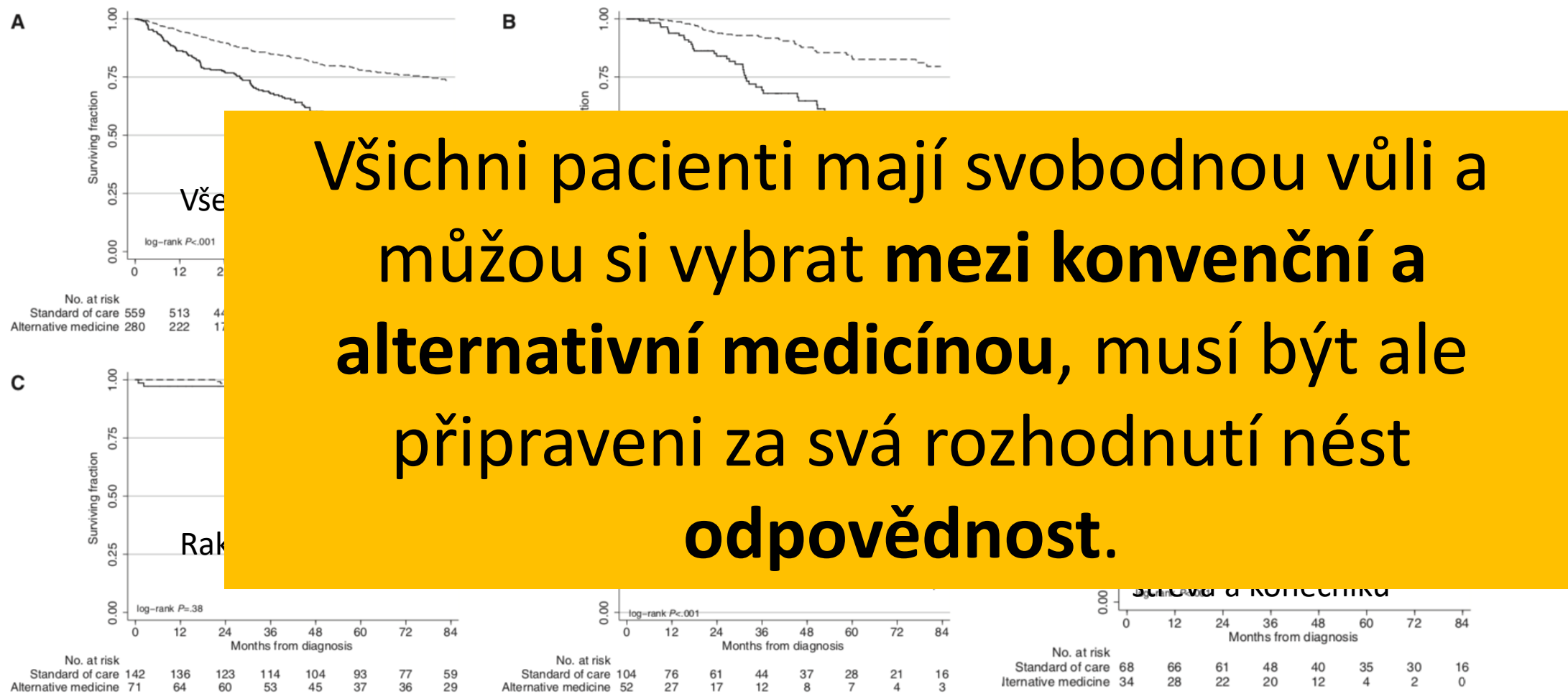


Figure 1. Overall survival of patients receiving alternative medicine (solid lines) vs conventional cancer treatment (dashed lines). Overall survival of alternative medicine vs conventional cancer treatment for (A) all patients, (B) breast, (C) prostate, (D) lung, and (E) colorectal cancers. P values were calculated by a two-sided log-rank test.

Bezpečnost versus účinnost

Bylinky a jejich extrakty mi přeci
nemůžou ublížit, proč bych je
neužíval(a)?

PC-SPES – rostlinný prostředek proti rakovině prostaty



The New England Journal of Medicine

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VOLUME 339

SEPTEMBER 17, 1998

NUMBER 12



CLINICAL AND BIOLOGIC ACTIVITY OF AN ESTROGENIC HERBAL COMBINATION (PC-SPES) IN PROSTATE CANCER

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EDWARD LICITRA, PH.D., MOHAMED M. RAFI, PH.D., BAO TING ZHU, PH.D., HEIDI SPAULDING, R.N.,
SUSAN GOODIN, PHARM.D., MICHEL B. TOLEDANO, M.D., WILLIAM N. HAIT, M.D., PH.D., AND MICHAEL A. GALLO, PH.D.

ABSTRACT

Background Herbal mixtures are popular alternatives to demonstrated therapies. PC-SPES, a commercially available combination of eight herbs, is used as a nonestrogenic treatment for cancer of the prostate. Since other herbal medicines have estrogenic effects in vitro, we tested the estrogenic activity of PC-SPES in yeast and mice and in men with prostate cancer.

Methods We measured the estrogenic activity of PC-SPES with transcriptional-activation assays in yeast and a biologic assay in mice. We assessed the clinical activity of PC-SPES in eight patients with hormone-sensitive prostate cancer by measuring serum prostate-specific antigen and testosterone concentrations during and after treatment.

HERBAL therapies are unconventional treatments in wide use for many diseases. They are sold as nutritional supplements for numerous illnesses, including the common cold (echinacea),¹ benign prostatic hypertrophy (saw palmetto),² and depression (Saint Johnswort).³ Among patients with cancer, the use of unconventional medicines, including herbal therapies, has been reported to be as low as 5 percent and as high as 60 percent.^{4,5} PC-SPES is an herbal combination used by patients with prostate cancer that consists of eight herbs: chrysanthemum, isatis, licorice, *Ganoderma lucidum*, *Panax pseudo-ginseng*, *Rabdosia rubescens*, saw palmetto, and scutellaria (skullcap).⁶⁻⁸

Herb. Snímek obrazovky: I've important biologic activ-

PC-SPES – rostlinný prostředek proti rakovině prostaty obsahuje syntetické látky

ARTICLES

Herbal Composition PC-SPES for Management of Prostate Cancer: Identification of Active Principles

Milos Sovak, Allen L. Seligson, Martin Konas, Marian Hajdich, Marek Dolezal, Miroslav Machala, Robert Nagourney

Background: The herbal mixture PC-SPES, used to manage advanced prostate cancer, has proven thrombogenic and highly estrogenic in clinical trials. However, attempts to identify the active compounds in PC-SPES have yielded incongruous results. Moreover, warfarin was identified in the serum of a patient taking PC-SPES who experienced a bleeding disorder. To determine the active components in PC-SPES potentially responsible for these effects, we analyzed PC-SPES lots manufactured from 1996 through mid-2001. **Methods:** Antineoplastic activity of PC-SPES and its individual component extracts was determined by colony-forming assays with several prostate cancer cell lines, and estrogenicity was determined by analyzing expression of an estrogen-responsive reporter gene in breast cancer cells. High-pressure liquid chromatography was used to isolate, identify, and quantify components of PC-SPES. Components were also identified by proton nuclear magnetic resonance, gas chromatography/mass spectrometry, and mass spectra analysis. **Results:** PC-SPES lots manufactured from 1996 through mid-1999 contained the synthetic compounds indomethacin (range = 1.07–13.19 mg/g) and diethylstilbestrol (range = 107.28–159.27 µg/g) and were two to six times more antineoplastic and up to 50 times more estrogenic than lots manufactured after the spring of 1999. In lots manufactured after mid-1999, gradual declines in the concentrations of indomethacin (from 1.56 to 0.70 mg/g), diethylstilbestrol (from 46.36 to 0.00 µg/g), and total phytosterols (from 0.586 to 0.085 mg/g) were observed. Warfarin was identified for the first time in lots manufactured after July 1998 (range = 341–560 µg/g). In the August 2001 lot, increases were found in concentrations of the natural products licochalcone A (from 27.6 to 289.2 µg/g) and baicalin (from 12.5 to 38.8 mg/g). **Conclusions:** The phytochemical composition of PC-SPES varied by lot, and chemical analyses detected various amounts of the synthetic drugs diethylstilbestrol, indomethacin, and warfarin and several natural products. To qualify for clinical pharmacologic exploration, nutritional supplements including herbal mixtures should meet standards of quality control under the Good Manufacturing Practice system, and the manufacturers of such supplements should provide reliable analytical quality assurance. [J Natl Cancer Inst 2002;94:1275–81]

PC-SPES, an herbal mixture, has been widely used for the management of hormone-responsive and hormone-refractory prostate cancer. A prospective clinical study, conducted by Small et al. (1), found that a dose of nine 320-mg capsules per day reduced levels of prostate-specific antigen by 80% in hor-

mone-responsive (median duration, 57 weeks) and by 54% in hormone-resistant (median duration, 16 weeks) patients. Loss of libido and sexual potency, gynecomastia, cardiovascular side effects, and thromboembolism were seen. Similar findings were reported in another study (2) that used a dose of three 320-mg PC-SPES capsules per day. DiPaola et al. (3) found thrombogenicity to be associated with a decline in serum levels of testosterone and prostate-specific antigen. The authors then showed that capsules of PC-SPES had estrogenic activity by use of transcriptional activation assays in yeast and in ovariectomized mice. They next derivatized the PC-SPES extract and used gas chromatography to analyze the extracts but obtained equivocal results, having detected an unknown organic substance that did not match the retention time of diethylstilbestrol, estrone, or estradiol.

The composition of PC-SPES is declared by the manufacturer to be an herbal mixture of *Ganoderma lucidum* Karst, *Dendranthema morifolium* Tzvel, *Glycyrrhiza glabra* L., *Isatis indigotica* Fort, *Panax pseudoginseng* Wall, *Rabdosia rubescens* Hara, *Scutellaria baicalensis* Georgi, and *Serenoa repens* Small. Numerous investigations (4,5) have attempted to link the phytochemicals contained in these plants to the PC-SPES effects by establishing their bioactivity. A PC-SPES extract has been shown to disrupt the cell cycle of the human prostate cancer cell lines PC-3, LNCaP, and DU-145 and the breast cancer MCF-7 line and to have antiproliferative effects on MAT-LyLu tumors (a hormone-resistant prostate adenocarcinoma cell line) in Copenhagen rats (6). Several antiproliferative, antitumorigenic, and other antineoplastic mechanisms have been proposed by de la Taille et al. (2). Two principle biologically active substances found in PC-SPES are baicalin (7), which inhibits prostate cancer cells via apoptosis, and licochalcone A (8), an antitumor phytoestrogen with Bcl-2 protein-modulating properties. In these studies we noticed that concentrations of the substances tested were much higher than corresponding concentrations ob-

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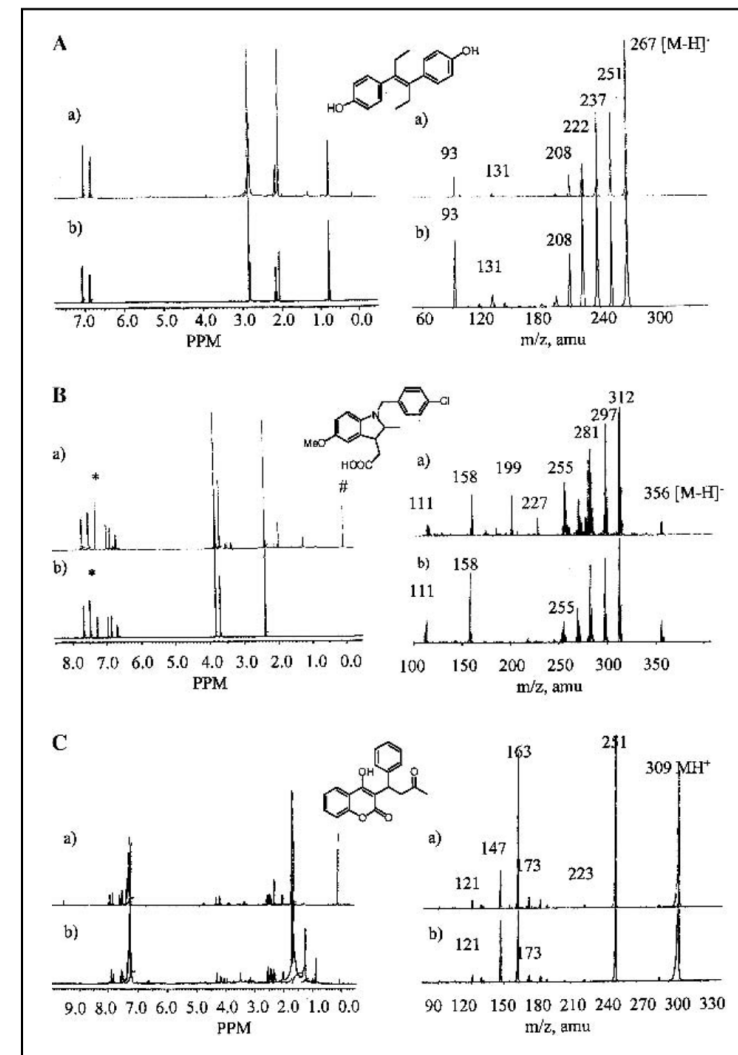
Correspondence to: Milos Sovak, M.D., UCSD School of Medicine, Radiology Research and Biophysics Foundation, 3333 N. Torrey Pines Ct., Ste. 100, La Jolla, CA 92037-1023 (e-mail: radiologyresearch@ucsd.edu).

See "Notes" following "References."

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Fig. 3. A) Diethylstilbestrol. The 500-MHz proton nuclear magnetic resonance (NMR) (acetone- d_6) (left) and electrospray ionization (ESI) mass spectrometry (negative mode) fragmentation of the parent ion ($[M-H]^- = 267\text{ m/z}$) (right) of diethylstilbestrol are shown. **Trace a** = reference standard (product D-4628; Sigma); **trace b** = isolated from PC-SPES lot 5438763 as a toluene extract by preparative high-pressure liquid chromatography (HPLC). **B)** Indomethacin. The 500-MHz proton NMR (chloroform- d) (left) and ESI mass spectrometry (negative mode) fragmentation of the parent ion ($[M-H]^- = 356\text{ m/z}$) (right) of indomethacin are shown. **Trace a** = reference standard (product I-7378; Sigma); **trace b** = isolated from PC-SPES lot 5438763 as a toluene extract by preparative HPLC. **C)** Warfarin. The 500-MHz proton NMR (chloroform- d) (left) and ESI mass spectrometry (positive mode) fragmentation of the parent ion ($[M-H]^+ = 309\text{ m/z}$) (right) of warfarin are shown. **Trace a** = reference standard (product 25,801-6; Aldrich); **trace b** = isolated from PC-SPES lot 5431219 as an ethanol extract by preparative HPLC. * = Residual proton from deuterated solvent; # = tetramethylsilane reference peak (0.0 parts per million).



PC-SPES – rostlinný prostředek proti rakovině prostaty: Co se stalo po naší publikaci?

- Časopis ještě před uveřejněním článku poslal upozornění Federálnímu úřadu pro potraviny a léky v USA (FDA)
- FDA potvrdila naše data
- Článek vyšel 4. září 2002
- FDA zavřela firmu vyrábějící doplněk stravy PC-SPES a zakázala jeho distribuci
- Představitelé společnosti stíháni, několik soudních sporů s výrobcem i distributory



PC-SPES – Co se stalo po naší publikaci?

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Democracy Dies in Darkness

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 CBS
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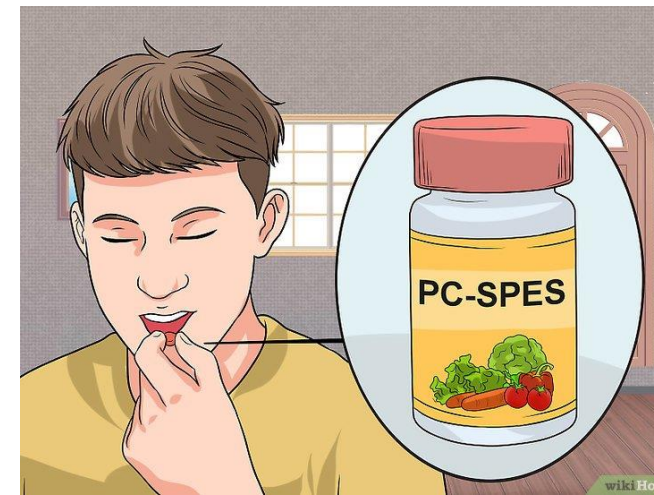
SHOWS ▾

• LIVE

Herbal Therapy And Prostate Cancer

PC-SPES – Co se stalo po naší publikaci?

- Zpřísnila se legislativa pro potravinové doplňky v USA
- Omezení zdravotního tvrzení
- Zaměření se na vyšší bezpečnost přípravků
- Podpora standardizace výroby potravinových výrobků (SVP)
- Důraz na kontrolu doplňků stravy
- PC-SPES se začal opět vyrábět bez syntetických léčiv, nicméně také bez zázračných účinků.



Třezalka v léčbě depresí u nádorových pacientů

Dobře dokumentovaná účinnost, ale:

- Aktivní sloučenina – hypericin společně s dalšími složkami způsobuje fotosensitivitu
- Významné lékové interakce, například s warfarinem, cyklosporinem, digoxinem, antikoncepcí, oxykodon a analgetika, HIV léčiva, protinádorová léčiva, atd.
- Jak? Mění aktivitu (inhibuje) enzymů, která metabolizují léky a vylučují je z těla ➡ ty se hromadí a jsou toxické!
- Podobně se chovají i další byliny a potraviny, například citrusy.



Snížení hladiny protinádorového léčiva

Jak to vnímá pacient?

Zlepšuje se mu deprese

Má méně vedlejších účinků

ALE za cenu nižší protinádorové účinnosti



Rizika kombinace doplňků stravy s aktivní protinádorovou
léčbou jsou značná a z velké míry neznámá
(platí beze zbytku i pro různé diety)

Komplementární medicína - východiska

- Většina konvenčních léčiv je přírodního původu a mnoho z nich vychází z tradiční medicíny
- Po alternativách a doplňcích léčby je velká poptávka
- Pacienti je budou užívat bez ohledu na doporučení
- Některé postupy se s konvenční léčbou vhodně doplňují
- Některé rostlinné produkty mají prokazatelnou chemopreventivní aktivitu (antioxidanty, kurkumin, lykopen, resveratrol, selen, zinek, DIM, omega-3, ...)
- Věda má být objektivní a podrobit analýze všechny potenciálně účinné postupy bez předsudků.



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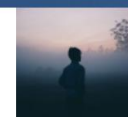
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Clinical Practice Guidelines Oncology

- [Exercise Guidelines for Cancer Survivors](#)  (*Med Sci Sports Exerc*)
- [Use of Integrative Therapies as Supportive Care in Breast Cancer Patients](#)  (*Journal of the National Cancer Institute*) [391KB PDF]

specific diagnostic and treatment modalities in the diagnosis and management of patients. The statements contain recommendations that are based on evidence from a rigorous systematic review and synthesis of the published medical literature.

These guidelines are not fixed protocols that must be followed, but are intended for health care professionals and providers to consider. While they identify and describe generally recommended courses of intervention, they are not presented as a substitute for the advice of a physician or other knowledgeable health care professional or provider.

které postupy KM mají prokazatelnou účinnost u nádorů (příklad rakoviny prsu)?

Clinical Practice Guidelines on the Use of Integrative Therapies as Supportive Care in Patients Treated for Breast Cancer

Heather Greenlee, Lynda G. Balneaves, Linda E. Carlson, Misha Cohen, Gary Deng, Dawn Hershman, Matthew Mumber, Jane Perlmutter, Dugald Seely, Ananda Sen, Suzanna M. Zick, Debu Tripathy; for the Society for Integrative Oncology Guidelines Working Group

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Background	The majority of breast cancer patients use complementary and/or integrative therapies during and beyond cancer treatment to manage symptoms, prevent toxicities, and improve quality of life. Practice guidelines are needed to inform clinicians and patients about safe and effective therapies.
Methods	Following the Institute of Medicine's guideline development process, a systematic review identified randomized controlled trials testing the use of integrative therapies for supportive care in patients receiving breast cancer treatment. Trials were included if the majority of participants had breast cancer and/or breast cancer patient results were reported separately, and outcomes were clinically relevant. Recommendations were organized by outcome and graded based upon a modified version of the US Preventive Services Task Force grading system.
Results	The search (January 1, 1990–December 31, 2013) identified 4900 articles, of which 203 were eligible for analysis. Meditation, yoga, and relaxation with imagery are recommended for routine use for common conditions, including anxiety and mood disorders (Grade A). Stress management, yoga, massage, music therapy, energy conservation, and meditation are recommended for stress reduction, anxiety, depression, fatigue, and quality of life (Grade B). Many interventions ($n = 32$) had weaker evidence of benefit (Grade C). Some interventions ($n = 7$) were deemed unlikely to provide any benefit (Grade D). Notably, only one intervention, acetyl-L-carnitine for the prevention of taxane-induced neuropathy, was identified as likely harmful (Grade H) as it was found to increase neuropathy. The majority of intervention/modality combinations ($n = 138$) did not have sufficient evidence to form specific recommendations (Grade I).
Conclusions	Specific integrative therapies can be recommended as evidence-based supportive care options during breast cancer treatment. Most integrative therapies require further investigation via well-designed controlled trials with meaningful outcomes.

Které postupy KM mají prokazatelnou účinnost u nádorů (příklad rakoviny prsu)?

Table 2. List of interventions and clinical outcomes of interest

Intervention
Acupuncture
Creative therapies
Hypnosis
Imagery/relaxation
Meditation
Mind-body practices
Natural products (eg, botanicals, vitamins, minerals)
Stress management
Tai Chi/qigong
Yoga
Whole systems*
Clinical outcomes of interest (in alphabetical order)
Fatigue**
Gastrointestinal**
Gynecological
Hematological
Lymphedema**
Neurological**
Neuromuscular**
Pain**
Psychological**
Quality of life**
Renal
Skin**
Sleep**
Vasomotor symptoms**

* Whole systems are defined as an approach to health care in which practitioners apply bodies of knowledge and associated practices to maximize the patients' capacity to achieve mental and physical balance and restore their own health, using individualized, nonreductionist approaches to diagnosis and treatment. In whole systems, the practitioner-patient relationship plays an important role and continues to evolve over time (28).

** Indicates where Grades A, B, C, D, and H recommendations are made in

Klasifikace doporučení (známkování)

A - intervence/léčba se doporučuje, prokazatelně vysoký prospěch pro pacienta

B - intervence/léčba se doporučuje, střední až vysoká míra důkazu o účinnosti

C- Intervence/léčba se doporučuje v individuálních případech, střední až nízký důkaz o účinnosti

D – intervence/léčba se nedoporučuje, je téměř určitě neúčinná

H - intervence/léčba se nedoporučuje, může být nebezpečná

Table 1. Summary of systematic review of randomized controlled trials on the use of integrative therapies during breast cancer treatment*		
Clinical population	BC patients during treatment, including surgery, CT, hormonal/biological therapy, and RT	
Clinical question	What integrative therapies can be used to prevent, treat, and manage symptoms and side effects encountered during breast cancer treatment?	
Clinical applications	Recommendations	Strength of evidence

Anxiety/stress reduction	Music therapy is recommended for reducing anxiety during RT and CT sessions	B
	Meditation is recommended for reducing anxiety in BC patients and those undergoing RT	B
	Stress management is recommended for reducing anxiety during treatment, but longer group programs are likely better than self-administered home programs or shorter programs	B
	Yoga is recommended for reducing anxiety in BC patients undergoing RT +/- CT and suggested for fatigued patients	B
	Acupuncture can be considered for reducing anxiety in fatigued BC patients	C
	Massage can be considered for short-term reduction of anxiety in BC patients	C
	Relaxation can be considered for treating anxiety during treatment	C

Table 1. Summary of systematic review of randomized controlled trials on the use of integrative therapies during breast cancer treatment*		
Clinical population	BC patients during treatment, including surgery, CT, hormonal/biological therapy, and RT	
Clinical question	What integrative therapies can be used to prevent, treat, and manage symptoms and side effects encountered during breast cancer treatment?	
Clinical applications	Recommendations	Strength of evidence
Depression/mood	Meditation, particularly MBSR, is recommended for treating mood disturbance and depressive symptoms in BC patients undergoing RT	A
	Relaxation is recommended for improving mood and depressive symptoms when added to SC	A
	Yoga is recommended for improving mood in women undergoing RT +/- CT and for fatigued BC patients in addition to SC	A
	Massage is recommended for improving mood disturbance in posttreatment BC patients	B
	Music therapy is recommended for improving mood in newly diagnosed BC patients	B
	Acupuncture can be considered for improving mood in postmenopausal women experiencing hot flashes or fatigue	C
	Healing touch can be considered for improving mood in BC patients undergoing CT	C
	Stress management interventions with or without exercise can be considered for improving mood in BC patients	C
Fatigue	Energy conservation counseling is recommended for the treatment of fatigue	B
	American ginseng can be considered as an herbal approach for the treatment of fatigue in BC patients	C
	Acupuncture can be considered for the treatment of fatigue after the completion of cancer treatments	C
	Modified qigong can be considered for the treatment of fatigue in BC patients	C
	Acetyl-L-carnitine is not recommended for the treatment of fatigue due to lack of effect	D
	Ginseng is not recommended for the treatment of fatigue due to lack of effect	D

Table 1. Summary of systematic review of randomized controlled trials on the use of integrative therapies during breast cancer treatment*		
Clinical population	BC patients during treatment, including surgery, CT, hormonal/biological therapy, and RT	
Clinical question	What integrative therapies can be used to prevent, treat, and manage symptoms and side effects encountered during breast cancer treatment?	
Clinical applications	Recommendations	Strength of evidence
Sleep	Stress management techniques can be considered for the treatment of sleep disruption	C
	Gentle yoga can be considered for the treatment of sleep disruption	C
Quality of life and physical functioning	Meditation is recommended for improving quality of life among BC patients	A
	Acupuncture can be considered for improving quality of life among cancer patients	C
	Guided imagery can be considered for improving quality of life among BC patients	C
	Mistletoe can be considered for improving quality of life among BC patients	C
	Qigong can be considered for improving quality of life in cancer patients	C
	Reflexology can be considered for improving quality of life among BC patients	C
	Stress management can be considered for improving quality of life among BC patients	C
	Yoga can be considered for improving quality of life among BC patients	C
	Exercise/awareness can be considered for improving functioning among BC patients	C
	Energy conservation is not recommended for improving functioning among BC cancer patients due to lack of effect	D
CINV	Acupressure can be considered for BC patients receiving CT as an addition to antiemetics to help control nausea and vomiting during CT	B
	Electroacupuncture can be considered for BC patients as an addition to antiemetics to control vomiting during CT	B
	Ginger can be considered for BC patients receiving CT, without concurrent RT as an addition to antiemetics for the control of acute nausea	C
	PMR can be considered for BC patients receiving CT as an addition to antiemetics to help control nausea and vomiting during CT	C
	Glutamine is not recommended for use by BC patients receiving CT for the treatment of CINV due to lack of effect	D

Table 1. Summary of systematic review of randomized controlled trials on the use of integrative therapies during breast cancer treatment*		
Clinical population	BC patients during treatment, including surgery, CT, hormonal/biological therapy, and RT	
Clinical question	What integrative therapies can be used to prevent, treat, and manage symptoms and side effects encountered during breast cancer treatment?	
Clinical applications	Recommendations	Strength of evidence
Pain	EASE can be considered for pain associated with CT among unemployed individuals	C
	Massage and healing touch can be considered for pain associated with CT	C
	Music therapy can be considered to relieve pain associated with surgery	C
	A physical training program that includes a mind–body modality can be considered for relieving pain associated with surgery among BC patients	C
	Hypnosis can be considered for relief of associated with surgery in BC patients	C
	Acupuncture can be considered as a nonpharmacologic approach to the short-term treatment of AIMSS	C
	Electroacupuncture can be considered as a nonpharmacologic approach to the short-term treatment of AIMSS	C
Neuropathy	Acetyl-L-carnitine is not recommended for prevention of neuropathy in BC patients due to harm	H
Lymphedema	Laser therapy can be considered as a treatment for lymphedema in BC patients	C
	MLD and compression bandaging have been shown to be equivalent. MLD can be considered for treatment of lymphedema in BC patients who have sensitivity to bandaging	C
Hot flashes	Acupuncture can be considered for decreasing the number of hot flashes in BC patients	C
	Electroacupuncture can be considered for decreasing the number of hot flashes in BC patients	C
	Soy is not recommended for the treatment of hot flashes in BC patients due to lack of effect	D
Acute radiation skin reaction	Aloe vera is not recommended as a standard therapy to prevent or treat acute radiation skin reaction due to lack of effect	D
	Hyaluronic acid cream is not recommended as a standard therapy to prevent or treat acute radiation skin reaction due to lack of effect	D

Proč jsou alternativy/doplňky konvenční léčby tak atraktivní?

- Konvenční léčba není vždy účinná a zřejmě nikdy nás neučiní nesmrtelnými.
- Konvenční léčba má vedlejší účinky.
- Lékaři se svým pacientům nevěnují dostatečně – nemají dostatek času nebo pochopení pro nemocného.
- Lékaři často pomíjejí účinné metody komplementární medicíny – potřeba kontinuálního a objektivního vzdělávání.
- Léčitel umí lépe pracovat s „placebo efektem“.
- Pacienti jsou zahlceni reklamou, chybí objektivní informační zdroje.
- Velké množství informací versus kritické myšlení.
- Masivní marketing produktů alternativní medicíny.
- Potřeba legislativně ukotvit léčitelství.



Jak velký je trh s alternativní/komplementární léčbou?

- Někdy ano, většinou převládá finanční motivace poskytovatelů:
- Na trhu je přes 30,000 rostlin a rostlinných přípravků
- Odhaduje se, že za tyto produkty se utratí přes \$30-40 miliard dolarů ročně pouze v USA!!! Eisenberg D. et al, JAMA, Nov 11, 1998(18) 1569-1575
- Odhaduje se, že 42% populace užívá nějaký doplněk stravy Eisenberg D. et al, JAMA, Nov 11, 1998(18) 1569-1575
- Pouze za jeden nebezpečný přípravek na hubnutí Metabolife 356® dosáhly prodeje v USA \$1 miliardy v roce 1999 Alternative Medicine Alert, January 2000
- **Nemocní jsou často ochotní zaplatit za alternativní léčbu řádově víc než za doplatky v konvenční léčbě.**



Závěry, aneb jak poznám důvěryhodnou komplementární léčbu?

- Hledejte produkty s prokazatelnými účinky publikované v odborných časopisech
- Hledejte u výrobce, zda odkazuje ve svých materiálech na studie publikované v odborných časopisech.
- Podívejte se, zda je přípravek vyroben v souladu se správnou výrobní praxí.
- Pozor na produkty s velkým množstvím pozitivních komentářů na sociálních sítích, výrobci si je často vkládají sami.
- Konzultuje vše se svým lékařem.
- **Řiďte se vždy zdravým rozumem a vědeckými poznatky, nevěřte všemu co vyčtete na internetu.**



Děkuji za pozornost a všem přeji pevné zdraví!



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