Complementary and Alternative Medicines and Patients With Breast Cancer: A Case of Mortality and Systematic Review of Patterns of Use in Patients With Breast Cancer

Les approches complémentaires et parallèles chez les patientes atteintes d'un cancer du sein: un décès et une analyse systématique des modes d'utilisation

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Abstract

Background: The use of complementary and alternative medicines (CAMs) is common among women being treated for breast cancer. A recent mortality associated with CAM at our center precipitated a systematic review of the Cochrane, EMBASE, and PubMed databases to identify English manuscripts including “CAM” and “breast cancer.” **Methods:** Papers included for review were selected based on predefined inclusion and exclusion criteria. The primary outcome was the use of CAM by women with breast cancer. Secondary outcomes included timing of use along disease trajectory, attitudes toward CAM by allopathic practitioners, and patient disclosure of CAM use to treating allopathic physicians. **Results:** Of 701 titles identified by the search strategy, 36 met the inclusion criteria. The weighted average proportion of women with breast cancer who use CAM was 40% (standard deviation: 18%). The diagnosis of breast cancer also prompts the initiation or increase of CAM use. However, up to 84% of patients do not disclose the use of CAM to their allopathic practitioners. **Conclusions:** Although CAM is often dismissed as a harmless addition to allopathic therapy, significant complications and interactions can occur. Our review and the dramatic case example provided highlight the need for physicians to educate themselves regarding CAM and to engage with their patients regarding its use.

Résumé

Historique : Les femmes traitées pour un cancer du sein utilisent souvent des approches complémentaires et parallèles (ACP). Un récent décès lié à l'utilisation de telles approches, qui s'est produit au centre des chercheurs, a suscité une analyse systématique des bases de données Cochrane, EMBASE et PubMed pour en extraire les manuscrits anglophones incluant les termes *complementary and alternative medicine* et *breast cancer*. **Méthodologie :** Les chercheurs ont retenu les articles d'après des critères d'inclusion et d'exclusion prédéfinis. Les résultats primaires étaient l'utilisation d'ACP par des femmes atteintes du cancer du sein et les résultats secondaires, le moment de leur utilisation dans la trajectoire de la maladie, les attitudes des praticiens allopatiques envers les ACP et le fait que les patientes informaient ou non les médecins allopathiques qu'elles utilisaient des ACP. **Résultats :** Parmi les 701 articles obtenus par la stratégie de recherche, 36 respectaient les critères d'inclusion. La moyenne pondérée de femmes atteintes d'un cancer du sein qui utilisaient des ACP s'élevait à 40 % (ÉT 18 %). Le diagnostic de cancer du

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sein incite les patientes à utiliser des ACP ou à en accroître l'utilisation. Cependant, jusqu'à 84 % des patients n'informent pas leur praticien allopathique qu'elles utilisent des ACP. **Conclusions :** Les ACP sont souvent considérées comme des ajouts inoffensifs au traitement allopathique, mais des complications et des interactions importantes peuvent surgir. L'analyse des chercheurs et l'exemple d'un cas dramatique jettent la lumière sur la nécessité que les médecins s'informent des ACP et discutent de leur utilisation avec leurs patientes.

Keywords

breast cancer, complementary medicine, alternative medicine, breast reconstruction

The terms “complementary medicine” and “alternative medicine” specifically refer to a broad set of health-care practices that are not part of that country's own tradition and are not integrated into the dominant health-care system”.¹ Non-mainstream health approaches may be grouped into 2 distinct categories: “mind-body practices” and “complementary and alternative medicine (CAM).”

Mind-body practices consist of a variety of physical or mindful therapies, including yoga, chiropractic and osteopathic manipulation, massage, acupuncture, healing touch, relaxation, meditation, prayer, and tai chi. Complementary and alternative medicines are administered or prescribed by a trained provider or purchased for self-care. These include herbals (botanicals), vitamins, minerals, probiotics, and animal products such as fish oils. Canada's Natural Health Products Regulatory Framework further clarifies this definition: “[CAM]s must be safe to use as over-the-counter products and not need a prescription to be sold.”²

Women with breast cancer commonly use CAM in addition to the care provided by physicians.³⁻¹¹ Plastic surgeons in Canada, however, receive no formal training regarding CAM. Allopathic physicians, including plastic surgeons, often dismiss these therapies as benign additions to standard cancer therapy. Here, a case of mortality associated with the use of complementary medicine is presented and is supplemented by a systematic review of the literature regarding the use of CAM by women with breast cancer.

Case Description

An otherwise healthy 50-year-old woman presented to the emergency department for evaluation of a mass on her right breast. This was approximately 17 years after she first noticed the mass and 3 years after the lesion “broke through the skin” (Figure 1). Prior to this, an intense fear of physicians led her to seek treatment from naturopathic practitioners. On presentation, she was admitted to hospital for urgent biopsy of the mass, which confirmed the diagnosis of malignant phyllodes tumor. A radical mastectomy and lymph node dissection were planned urgently, and the plastic surgery service was consulted pre-operatively to assist with management of the anticipated soft tissue deficit. During that consultation, the patient expressed an interest in breast reconstruction.

After several weeks of medical optimization, surgical resection was performed without incident. The size of the excised tumour was 27 cm × 20 cm × 12 cm (Figure 2). A negative

pressure dressing was applied intraoperatively to temporize the wound, allowing for pathologic confirmation of margin control before definitive reconstruction. Coverage of the anterior thorax was later achieved using a pedicled latissimus dorsi myocutaneous flap. A tissue expander was also inserted at that time to allow for creation of a pocket for future implant-based reconstruction. This surgery was completed without incident, and there were no concerns at her post-operative follow-up 2 weeks later.

Shortly after her follow-up, she was seen by her naturopathic doctor who administered an in-office infusion of vitamins and minerals (*Myers' cocktail*). During the infusion, the patient felt acutely unwell, started to vomit, and was brought to the emergency department in extremis. She was alert and combative on presentation but quickly deteriorated and lost consciousness before entering a cardiac arrest. Resuscitative efforts were unsuccessful. An autopsy and coroner's inquest determined the cause of death was attributed to acute endocarditis of unknown origin.

Methods

A systematic review was performed to assess the use of natural health products (NHPs) by women diagnosed with breast cancer. The MEDLINE (PubMed), CINAHL, and Cochrane databases were queried with MeSH terms including “complementary and alternative medicine” (CAM, herbals, vitamins) AND “breast cancer” (tumours, neoplasms) for articles in English and French from January 2000 to June 2016. The reference lists of retrieved review articles were also screened for additional potential entries. Titles and abstracts were screened for eligibility by 2 authors (G.D. and G.A.R.). Duplicates and non-clinical studies were removed. The remaining full-text articles were reviewed for inclusion by 2 authors (G.D. and G.A.R.) according to the criteria presented in Table 1.

The primary outcome was the proportion of women with breast cancer who use CAM concurrently with conventional cancer treatment. Secondary outcomes included the proportion of women with breast cancer who sought consultation from a naturopathic or alternative practitioner, the timing of CAM use in relation to breast cancer diagnosis, attitudes toward disclosing CAM use to physicians, and adverse events associated with CAM use. Demographic data were also recorded.

Figure 1. Large ulcerative phyllodes tumor of the right breast in a patient who delayed seeking medical attention.

Figure 2. En bloc excision of the 27 × 20 × 12 cm phyllodes tumor.

Statistical analysis was completed using SPSS Statistics (IBM Corp. 2013, version 22.0; IBM Corp, Armonk, New York).

Results

The initial search yielded 701 titles; 131 articles were retained for full-text review, and ultimately 36 studies met our inclusion criteria (Figure 3). The included studies were observational: These included 24 (67%) descriptions of cross-sectional/self-report data obtained by survey or interview,³⁻²⁷ 8 (22%) cohort studies,^{11,28-34} 1 case-control,³⁵ 1 mixed-methods paper,³⁶ and a survey component as further follow-up to 2 randomized control trials.^{37,38}

The primary outcome was the rate at which women with breast cancer use CAM. This ranged from 14% to 90% in the reviewed studies (Table 2). The weighted pooled mean CAM

Table 1. Inclusion Criteria for Included Studies.

	Inclusion	Exclusion
Population	Female ≥ 18 years, diagnosed with BrCa along disease trajectory receiving/received allopathic care	At risk (familial) not yet diagnosed; exclusively late metastatic disease; alternative medicine (not as adjunct)
Study type	Original clinical research observational, interventional	Qualitative, methods papers, questionnaire development, media analyses, reviews
Study topic	Patients with cancer accessing “CAM”	BrCa-specific data not reported; data on NHP not provided; single NHP or therapy (eg, flax)

Abbreviations: BrCa, breast cancer; CAM, complementary and alternative medicine; NHP, natural health products.

Figure 3. Flow diagram for study selection.

use among patients with breast cancer was found to be 40% (standard deviation [SD] = 18%). Although the use of CAM is often considered culturally specific and attributed to tradition,³⁹ the studies reviewed suggest that young women with higher socio-economic status and education are the most likely to use CAM regardless of ethnic or cultural background.^{35,40-43} To test this using available data, reviewed studies were divided by region of origin, and mean CAM use was weighted by sample size (n). Study means were then grouped by regions of origin, and a 1-way analysis of variance was used to compare the effect of region on the use of CAM. Region of origin was found to significantly affect the use of CAM ($F_{3, 32} = 3.62$, $P = .023$). North America was found to have the highest proportion of CAM use with a weighted mean of 48% (SD = 22%).^{3,7-9,14,20,22,27,31,34,35,37,38,44} Those from the Asia, Middle East, and Europe had weighted averages of 45% (SD = 13%), 25% (SD = 10%), and 31% (SD = 9%), respectively. While not significant, when further divided into country of origin, studies from Canada reported the highest proportion of CAM use among

Table 2. Use of CAM by Women With Breast Cancer (BrCa): Included Studies 2000 to 2016.^a

First Author, Year	Country/n/Design	Proportion of Study Population				% of CAM Users		
		% Surgery	Overall %—Any CAM ^b	Biological/ NHPs ^c	Provider/ System ^c	Timing of Use	Disclose/ Discuss	Adverse Events
Luo, 2016 ³	United States/283 BrCa of 603 patients with cancer/ x-sect—questionnaire	N/A	92.6%	82% Suppl	N/A	Diag/tx/ follow-up	23.0%	N/A
Hwang, 2015 ⁴	South Korea/288 women <12 months to >60 months/x-sect—questionnaire	N/A	67.0%	53% Ginseng	23% trad med	Diag/tx/ follow-up	38.3%	N/A
Naja, 2015 ¹²	Beirut Lebanon/180 BrCa with patients >2 months post-diagnosis/x-sect—questionnaire	N/A	40.6%	14%	2% folk med	diag/tx/follow-up	27.4%	9.7% Side effects nos
Chui, 2014 ⁵	Malaysia/546 in chemotherapy/x-sect—questionnaire	N/A	70.9%	54%	25%	Tx	N/A	N/A
Kang, 2014 ²⁸	United States/77 newly diagnosed early BrCa/ prospective—questionnaire 3 time	N/A	94%-97% 5-6 CAMS	60%	N/A	diag/tx/ follow-up	N/A	N/A
Saghatchian, 2014 ⁶	France/184 early stage in chemotherapy/x-sect—questionnaire	50.5% Bcon 41.8% mast	37.1% ≥ 1 CAM	19%	N/A	Tx	“often undisclosed”	73% = “safe”
Gül, 2014 ²³	Turkey/87 women postsurgery for BrCa/x-sect—questionnaire	36.8% Bcon 63.2% mast	95.0%	38% herbs	N/A	tx/ follow-up	should be charted	N/A
Pedersen, 2013 ³³	Denmark/2931 recurrence-free 15-16 months postsurgery BrCa/cohort—questionnaire	46.5% Bcon, 53.5% mast	49.8% ≥ 1 CAM	31%	6%	follow-up	N/A	N/A
Link, 2013 ³⁵	United States/764 primary BrCa/follow-up of case-control—x-sect questionnaire	100%	75.0%	71%	38%	Diag	N/A	N/A
Templeton, 2013 ¹⁷	Swiss/342 early BrCa/x-sect—questionnaire	99%	46.0%	38%	14%	tx/ follow-up	question patients	N/A
Fox, 2013 ³⁶	Ireland/406 BrCa, 20 oncologists, 20 practitioners/ mixed-qualitative + survey	45% Bcon 55% mast	56.0%	18%	4%	Diag/tx/ follow-up	N/A	I potential interaction n/a
Moran, 2013 ³¹	United States/360 stage 0-III BrCa in RT/multi-institutional cohort—questionnaire	100%	54.0%	24%	8% naturo	Tx	16.0%	
Saibul, 2012 ¹³	Malaysia/394 BrCa survivors tx or post-tx/x-sect—questionnaire	N/A	51.0%	24%	2% homeo	tx/follow-up	25.0%	0% side effect
Tautz, 2012 ¹⁶	Germany/170 all stages of BrCa/x-sect study—questionnaire	70% Bcon 30% mast	63.0%	42%	18% homeo	diag/tx/follow-up	consult gp>gynec>onc	N/A
Matsuno, 2012 ³⁴	Hawaii/1443 in situ and invasive BrCa/population-based SEER 1994-2003	99.10%	52.3%	27%	22%	N/A	N/A	N/A
Lo-Fo-Wong, 2012 ²⁹	Netherlands/176 BrCa chemo/prospective observational—questionnaires	77.6% Bcon 22.4% mast	57.2%	41%	8% homeo	tx/follow-up	40-77%	N/A
McLay, 2012 ²¹	Scotland/360 BrCa Clinic outpatients/x-sect—questionnaire	N/A	69.5%	35%	7%	diag/tx/follow-up	need to discuss	59-63% = “safe”
Saqib, 2012 ³⁷	United States California/WHEL/2562 patients with BrCa to 5 years post-diagnosis/RCT + interview	N/A	85.0%	56%	6% naturo	diag/tx/follow-up	>safety if aware of use	N/A
Ben-Arye, 2012 ²⁶	Israel/166 BrCa of 275 gyn-onc + BrCa/x-sect—questionnaire	N/A	44.0%	26%	14% naturo	tx/follow-up	N/A	N/A
Shaharudin, 2011 ¹⁵	Malaysia/116 BrCa survivors post-tx/x-sect—questionnaire	97.4%	62.9%	55%	4.1% homeo	tx/follow-up	45.2%	85% users “content”

(continued)

Table 2. (continued)

First Author, Year	Country/n/Design	Proportion of Study Population			% of CAM Users			
		% Surgery	Overall %—Any CAM ^b	Biological/NHPs ^c	Provider/System ^c	Timing of Use	Disclose/Discuss	Adverse Events
Sewitch, 2011 ¹⁴	Montreal/feasibility 41 BrCa of 100 outpatients with cancer/x-sect—questionnaire	N/A	90.2%-95.1%	90%	39% provider	Diag	68% “disclose not discussion”	N/A
Kang, 2012 ²²	Korea/425 BrCa $\bar{x}$ = 26 months post-operatively/x-sect—questionnaire	59.4% Bcon 40.6% mast	57.4%	42%	N/A	diag/post-op/tx/follow-up	29.6% discuss	6.5% side effects
Hietala, 2011 ³⁰	Sweden/855 1 patients with BrCa preoperatively/prospective cohort—questionnaires	100%	57.9%	40%	N/A	diag/post-op/tx/follow-up	“identify users”	N/A
Wyatt, 2010 ³⁸	United States/222 early BrCa post-operatively/secondary analysis RCT—questionnaire	76.7% Bcon 23.3% mast	57.8%	44%	8%	post-op/tx	N/A	N/A
Pedersen, 2009 ³²	Denmark/3433 BrCa/nationwide inception cohort—questionnaire	45.6% Bcon 53.4% mast	40.1% $\geq$ diag	28%	N/A	diag/post-op/tx	N/A	N/A
Greenlee, 2009 ¹¹	United States/1000 $\leq$ 2 months invasive BrCa diagnosis/pathways prospective cohort—questionnaire	67.6% Bcon 27.9% mast	86.1% $\geq$ diag	46%	N/A	<diag/diag/tx	“discuss with patients”	N/A
Gulluoglu, 2008 ²⁴	Turkey/129 women mean 39 months post-operatively/x-sect survey	33.1% Bcon 66.9% mast	36.0%	24%	N/A	diag/post-op/tx/follow-up	61% informed physician assessment of use is essential	1 contact sore case
Matthews, 2007 ²⁰	United States Chicago/115 BrCa $\geq$ 1 year survivors/x-sect survey	56% Bcon 44% mast	69% (50% for cancer)	32%	N/A	<diag/diag/tx/follow-up	physician assessment of use is essential	N/A
Boon, 2007 ¹⁰	Canada/ON Cancer Reg 1998 n = 411, 2005, n = 527 BrCa/x-sect—survey	98.5% 1998 90.8% 2005	1998: 66%; 2005: 81%	51% vitamin-mineral 2005 39% dietary	7% naturo	<diag/diag/tx/follow-up	46.4% (1998)	N/A
Fasching, 2007 ²⁵	Germany/796 women with BrCa/x-sect—questionnaire + interview	N/A	50.1%	20% megavitamin 31% megavitamin	22% TCM	diag/tx/follow-up	19.8% physician recommend	N/A
Buettner, 2006 ²⁷	US/Nurses’ Health Study 1998-2002/2022 BrCa/x-sect—questionnaire	N/A	62.0%	20% megavitamin 31% megavitamin	4% homeo	diag/tx/follow-up	N/A	73-94% = “helpful”
Helyer, 2006 ⁷	Canada/37 locally advanced BrCa/x-sect—survey	94%	47.0%	21% since diag	3% naturo	Tx	64% informed oncologist	43-75% = “safe”
Molassiotis, 2006 ¹⁸	Europe/282 BrCa 11 countries/x-sect—questionnaire	N/A	44.7%	23% megavitamin 26% herbs	1% naturo	<diag/diag/tx	18% info from physician	2.5% side effects nos
Nagel, 2004 ¹⁹	Germany/263 BrCa survivors in QOL study/x-sect	41.1% Bcon 58.9% mast	36.0%	66% $\geq$ 1 CAM	N/A	Follow-up	60% info from physicians	n/a
Henderson, 2004 ⁸	United States/551 women after allopathy care BrCa/x-sect—questionnaire	N/A	72.3% $\geq$ 1 CAM	62% vitamins	13% naturo	Follow-up	21% info from physician	N/AN/A
Ashikaga, 2002 ⁹	United States/148 patients with BrCa 2-3 years post-diagnosis/x-sect—questionnaire	68.9% Bcon 31% mast	36%-97% any CAM	14%-90%	5% naturo	post-op/tx	73% reported to physician	N/A
2002-2016	Summary				1%-39%	all phases	16%-77% of users	0%-9.7% “side effect”

Abbreviations: BrCa, breast cancer; CAM, complementary and alternative medicine; Homeo, homeopathy; ON Cancer Reg, Ontario Cancer Registry; N/A, not available; NHP, natural health products; NOS, not otherwise specified; QOL, quality of life; RCT, randomized control trial; RT, randomized trial; Suppl, Supplement; TCM, traditional Chinese medicine; Trad med, traditional medicine; Tx, Treatment; WHEL, Women’s Healthy Eating and Living.

^aHighest individual NHP or whole system category reported (ie, % herbals or % megavitamin not % (herbals + megavitamin)).

^bProportion of the study population using any CAM (overall % without prayer is reported where available).

^c% calculated (and rounded) to represent % of study population (not % of CAM users).

patients with breast cancer of 53% (SD = 30%).^{7,10,14} Those from the United States were 43% (SD = 18%).^{3,8,9,20,22,27,31,34,35,37,38,44}

A diagnosis with breast cancer appears to trigger generalized lifestyle changes^{17,45} and is associated with increased use of CAM.^{46,47} Women were found to change, start, or increase their use of CAM at the time they receive a breast cancer diagnosis in the majority of reviewed studies.^{3,4,10,12,14,16,20,22,24,27,31,34-38,44,48,49} Breast cancer surgery also appears to be a powerful catalyst for the initiation of CAM use: Kang et al²² reported that the use of CAM increased by 4.9% after their diagnosis with breast cancer and 76% after primary surgery for breast cancer. Furthermore, Tautz et al¹⁶ found that among women with breast cancer, those treated with mastectomy report a higher rate of CAM use (82%) than those treated with breast conserving therapy (55%). Once initiated, CAM use continues long after the acute phase of cancer treatment,^{16,20,21,23,36,37} for a median length of 12 years.³⁴

In studies where disclosure of CAM use by patients was assessed, up to 84% of patients using CAM do not share this with a member of their allopathic care team.^{7,9,10,13-15,22,24,29,31} Many patients fear judgment⁵⁰ or perceive that alternative medicines may challenge the physician's opinion and could damage their relationship with their physician.⁴⁷ Many patients also believe that NHPs are outside the realm of physician expertise.^{13,16,26} Because of this, women with breast cancer prefer to rely on friends, family, and social media for information regarding CAM.^{18,31,41,51-53}

Several adverse events have been associated with the use of CAM. These include contact dermatitis²⁴ and mild "side effects" in 2.5%,¹⁸ 6.5%,²² and 9.7%¹² of participants. None of the reviewed studies reported a serious adverse event associated with the use of CAM in the context of breast cancer.

Discussion

Women with breast cancer commonly augment conventional cancer therapy with CAM. Furthermore, the proportion of CAM use by those women treated with mastectomy is higher than those treated with other modalities.²² The studies reviewed here demonstrate that many women either start or change their use of CAM after their breast cancer diagnosis. These therapies are overwhelmingly benign and rarely associated with serious adverse events or side effects. Here, we presented a case of mortality associated with CAM.

The studies identified in this review did not describe any serious adverse events associated with the use of CAM in the context of breast cancer. However, examples of serious side effects associated with CAM use in other contexts include organ failure,^{54,55} induction of systemic lupus erythematosus,⁵⁶ and serious psychiatric symptoms such as anxiety, hallucinations, and addiction.⁵⁷ Products containing bitter orange (*Citrus aurantium*) have been linked to 16 cases of acute cardiomyopathy, causing 2 reported deaths in Canada.⁵⁸ Kava (*Piper methysticum*) is commonly used to treat anxiety but is now the participant of a Health Canada advisory because it has

been linked to serious liver toxicity and 1 report of fulminant liver failure requiring transplant.⁵⁹

Importantly, many complementary medicines and practices are reported to positively impact patients' well-being during conventional cancer treatments: Behavioural therapies such as massage and yoga improve mood and the fatigue associated with conventional cancer treatment.⁴⁴ Furthermore, complementary therapies are also associated with increased feelings of control, engagement in self-care, improved coping, and overall feelings of health.^{6,25,35}

Health Canada requires rigorous pre-market proof of efficacy and safety of a drug in clinical trials. Health Canada requires imported or domestic NHPs to be prepared under Good Manufacturing Practice guidelines to ensure quality and safety and NHPs must be licensed. Licensure is granted after information regarding medicinal ingredient content, source, potency, and recommended use is provided. The licenseholder is responsible for reporting any serious adverse events to Health Canada. Natural health products still suffer from a lack of product standardization, and data regarding composition and quality are poor.⁶⁰ The International Regulatory Cooperation for Herbal Medicines, a global network of regulatory bodies, was established in 2006 under the auspices of the World Health Organization to address these concerns, however, obligation to report does not exist with the current system.⁶¹

In the case described here, an intravenous infusion of Myers' cocktail was prescribed and administered by a naturopathic doctor. A published description of Myers' cocktail composition is an intravenous solution of magnesium chloride hexahydrate (20%, 2-5 mL), calcium gluconate (10%, 1-3 mL), hydroxocobalamin (1000 µg/mL, 1 mL), pyridoxine hydrochloride (100 mg/mL, 1 mL), dextpanthenol (250 mg/mL, 1 mL), B complex 100 (1 mL), and ascorbic acid (vitamin C, 222 mg/mL, 4-20 mL).⁶² The Myers' cocktail is reported to be effective in treating asthma, allergic rhinitis, upper respiratory tract infections, fatigue, depression, cardiovascular disease, narcotic withdrawal, chronic urticaria, and hyperthyroidism.⁶² In a randomized, double-blind, placebo-controlled pilot trial to evaluate the use of Myers' cocktail for the treatment of fibromyalgia, there was no significant difference in relief of symptoms when compared to placebo.⁶³ Described side effects are generally benign and are limited to feelings of intense warmth and postural hypotension.⁶² Thiamine, an ingredient of Myers' cocktail, has been associated with anaphylaxis during treatment of Wernicke-Korsakoff encephalopathy.⁶⁴ Prior to this report, no serious adverse reactions related to the use of Myers' cocktail have been reported.

Conclusion

Women with breast cancer commonly use CAM during all stages of their disease trajectory but frequently do not discuss this with their allopathic physicians. When they do, physicians are most often poorly equipped, as most have received no formal training in this area. Many allopathic physicians dismiss CAM therapies as benign but ineffective additions to

conventional therapy. However, many CAM practices are beneficial, and others can be dangerous. Here, an example of a mortality associated with the use of CAM by a woman being treated for breast cancer is presented. It behooves physicians treating women with breast cancer to educate themselves regarding CAM and to encourage open conversations about CAMs.

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