

Palliative In-Patient Cancer Treatment in an Anthroposophic Hospital: I. Treatment Patterns and Compliance with Anthroposophic Medicine*

Peter Heusser^{a, d} Sarah Berger Braun^a Renatus Ziegler^b Manuel Bertschy^c Silke Helwig^d
Brigitte van Wegberg^e Thomas Cerny^f

^a Institute for Complementary Medicine KIKOM, University of Bern, ^b Institute Hiscia, Arlesheim,

^c Institute for Mathematical Statistics, University of Bern, ^d Lukas Klinik, Arlesheim, ^e Klinik Hirslanden, Zürich,

^f Oncology/Hematology, Department of Internal Medicine, Kantonsspital St. Gallen, Switzerland

Key Words

Cancer treatment, palliative · Anthroposophic medicine · CAM · Mistletoe · Therapeutic eurythmy · Treatment compliance

Summary

Background: Complementary and alternative medicine (CAM) and most of all anthroposophic medicine (AM) are important features of cancer treatment in Switzerland. While the number of epidemiological investigations into the use of such therapies is increasing, there is a distinct lack of reports regarding the combination of conventional and CAM methods. **Patients and Methods:** 144 in-patients with advanced epithelial cancers were enrolled in a prospective quality-of-life (QoL) study at the Lukas Klinik (LK), Arlesheim, Switzerland. Tumor-related treatment was assessed 4 months prior to admission, during hospitalization and 4 months after baseline. **Objective:** We aimed at giving a detailed account of conventional, AM and CAM treatment patterns in palliative care, before, during and after hospitalization, with emphasis on compliance with AM after discharge. **Results:** Certain conventional treatments featured less during hospitalization than before but were resumed after discharge (chemotherapy, radiotherapy, sleeping pills, psychoactive drugs). Hormone therapy, corticosteroids, analgesics WHO III and antidepressants remained constant. AM-treatment consisted of Iscador® (mistletoe), other plant- or mineral-derived medication, baths, massage, eurythmy, art therapy, counseling and lactovegetarian diet. Compliance after discharge was highest with Iscador (90%) and lowest with art therapy (14%). Many patients remained in the care of AM physicians. Other CAM and psychological methods were initially used by 39.9% of patients. After 4 months, the use had decreased with few exceptions. **Conclusion:** During holistic palliative treatment in an anthroposophic hospital, certain conventional treatments featured less whereas others remained constant. After discharge, chemotherapy returned to previous levels, AM compliance remained high, the use of other CAM therapies low.

Schlüsselwörter

Krebstherapie, palliative · Anthroposophische Medizin · CAM · Misteltherapie · Heileurythmie · Therapie-Compliance

Zusammenfassung

Hintergrund: Komplementär- und Alternativmedizin (CAM) und insbesondere die anthroposophische Medizin (AM) sind bedeutende Aspekte der Krebstherapie in der Schweiz. Die Anzahl epidemiologischer Untersuchungen zur Beanspruchung solcher Therapien ist steigend, jedoch mangelt es an Berichten über die Kombination konventioneller und CAM-Methoden. **Patienten und Methoden:** 144 hospitalisierte Patienten mit fortgeschrittenen epithelialen Tumoren nahmen an einer prospektiven Lebensqualitätsstudie in der Lukas Klinik (LK) Arlesheim, Schweiz teil. Dabei wurde die tumorbezogene Therapie 4 Monate vor Hospitalisation, während der stationären Behandlung und 4 Monate nach Aufnahme untersucht. **Ziele:** Eine detaillierte Übersicht über die Therapie mit konventionellen, AM- und CAM-Anteilen unter besonderer Berücksichtigung der Compliance mit AM nach Entlassung sollte erstellt werden. **Ergebnisse:** Einige konventionelle Therapien wurden während des Spitalaufenthalts gegenüber vorher reduziert und stiegen nach Entlassung wieder an (Chemotherapie, Radiotherapie, Schlafmittel, Psychopharmaka). Hormontherapie, Corticosteroide, Analgetika WHO III und Antidepressiva blieben konstant. Die AM-Behandlung bestand aus Iscador® (Misteltherapie), anderen pflanzlichen und mineralischen Präparaten, Bädern, Massagen, Heileurythmie, Kunsttherapie, Gesprächstherapie und lactovegetarischer Kost. Compliance nach Entlassung war am höchsten bei Iscador (90%) und am niedrigsten bei Kunsttherapie (14%). Viele Patienten blieben in der Behandlung von anthroposophischen Ärzten. Andere CAM- und psychologische Methoden wurden ursprünglich von 39.9% der Patienten genutzt. Nach 4 Monaten war diese Zahl jedoch bis auf wenige Ausnahmen vermindert. **Schlussfolgerung:** Während der ganzheitlichen palliativen Krebstherapie in einer anthroposophischen Klinik war die Anwendung einiger konventioneller Therapien reduziert, wogegen andere konstant blieben. Nach Entlassung kehrte die Chemotherapie auf das vorherige Niveau zurück, die Compliance mit AM blieb hoch und die Anwendung anderer CAM-Therapien gering.

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Introduction

The use of complementary and alternative medicine (CAM) in the treatment of cancer has become increasingly popular in western countries. In European and US studies, the estimated proportion of cancer patients using CAM varies from 7–83% and is especially high in breast cancer patients and palliative situations. The reasons for this are manifold and include dissatisfaction with conventional cancer therapy, the desire for more self-activity and the hope for enhancement of immune and organ functions [1–4]. However, contrary to initial concerns [5, 6], conventional therapy is usually not abandoned by such patients. The majority use CAM to complement conventional treatment [4, 7–10], often with the intention to alleviate side effects [9, 11]. The increased public interest has elicited corresponding research activities into the prevalence and reasons for the use of CAM in cancer treatment [1, 4, 11]. However, to date, there is an almost complete lack of inquiries into the change of this use over time. If the use of CAM is associated with unmet needs in conventional cancer therapy [12–16], then it has to also be expected that dissatisfaction with or a lack of perceived effects of a chosen CAM method will result in a subsequent search for other CAM or conventional modalities, especially in the palliative treatment situation [17]. In Central Europe and especially in Switzerland, one of the most popular complementary cancer therapies is anthroposophic medicine (AM), namely mistletoe therapy [9, 18, 19]. Mistletoe treatment has been studied extensively, but the evidence for a life-prolonging effect in various tumors in adjuvant or palliative situations remains controversial [20–23]. Well documented are immunological, gene-repairing and cytotoxic actions of mistletoe preparations and their components [24–27]. Some studies report improvements in quality of life (QoL), but usually in the context of mistletoe therapy alone, i.e. independent of a specific therapeutic setting of AM [21, 27–30]. On the other hand, AM is well known for its holistic approach, especially in AM hospitals providing a wider range of facilities, including arts, therapeutic eurythmy, diet and counseling. However, so far, systematic studies on the effect of holistic anthroposophic tumor therapy have been lacking. For this reason, a composite research project on the effects of holistic AM cancer treatment on the QoL of patients with advanced cancers has been performed in the framework of the Swiss National Foundation program NFP34 between 1995 and 1998 [10, 31–37]. This included a prospective observational study at the Lukas Klinik (LK) in Arlesheim, Switzerland, with the aims to document therapy patterns of in-patients with advanced cancer and their compliance with AM over time and to investigate the longitudinal course of their QoL during and after hospitalization at LK. The LK is a well-known AM hospital specialized in cancer treatment and frequented by patients from all regions of Switzerland, Germany and other countries. The study was approved by the Ethics Committee of the University of Bern, and informed consent was obtained from patients.

In this paper we give a detailed account of conventional, AM and other CAM cancer treatments within 4 months prior to admission, during in-patient treatment and after hospital discharge up to months 4 from baseline, with special focus on compliance with AM prescribed at LK after hospital discharge. Data originate from the 144 patients who took part in the longitudinal QoL study at LK and whose QoL development will be shown in a second publication. This paper provides the first transparent overview of the entire conventional and unconventional palliative cancer therapy and its change over time in anthroposophically treated cancer patients.

Patients and Methods

Patients

Between May 1995 and May 1998, all newly admitted patients at LK, suffering from incurable, locally invasive or metastasizing epithelial carcinomas with primary tumors of the breast, lung, gastrointestinal tract, liver, gall bladder, pancreas, uterus, cervix uteri or ovary or with unknown primary sites were at first registered in a registration study which served to compare the patient population of the LK and of the Institute of Medical Oncology at the University of Bern with respect to sociodemographic and medical characteristics, basic QoL as well as beliefs and attitudes towards conventional and unconventional treatments. The results of these comparisons have been published earlier [10, 34, 36]. The 166 patients of the registration study were then asked to participate in our prospective, observational QoL study. 144 patients agreed [10]. Their medical characteristics are displayed in table 1.

Therapeutic Concept

Historically, AM has evolved from the work of Rudolf Steiner, PhD, Ita Wegman, MD, and other physicians since the 1920s [38]. Conceptually, it is based on the notion that the human being does not only consist of matter and material energies, but also of specific forces of life, soul and spirit [39]. Thus, health and disease are not explained solely on the basis of molecular interactions, but as the result of differentiated interactions between physical, vital, psychic and spiritual causal factors within the human being as a whole. In therapy, effects are aimed not only at the physical level by means of conventional pharmacotherapy, surgery etc, but also at the levels of life forces, soul and spirit by a diversified array of therapeutic measures: medicinal substances from the mineral, plant and animal kingdoms, art therapy, exposure to colored light, modeling, music and speech therapy, and therapeutic eurythmy, a movement therapy tailored to the enhancement of harmonious interactions between the functions of body, soul and spirit [40]. Also, emphasis is put on a close carer-patient relationship to support the patients' coping efforts with the disease. Conventional therapeutic procedures are used as well, for AM is not meant to be an alternative to conventional medicine but an extension or a complementation thereof [38, 39]. Taken together, these measures theoretically correspond to various patient needs often cited in the literature as reasons for the use of CAM [7–11, 41–43]: inclusion of body, soul and spirit, support of organ functions, enhancement of immune processes and balancing of treatment side effects, active involvement of the patient, but also continuation of necessary conventional treatments.

Therapy Assessment

Therapies used in the 4 months prior to hospital admission were assessed in a structured patient interview upon entry to LK, carried out by an independent external study coordination team from Bern University [10]. For chemo- and radiotherapy, the accuracy of patient reports could be

Table 1. Medical characteristics of patients at LK participating in the longitudinal quality of life study (n = 144)

	Medium (range)
Age, years	
Female	56.5 (33–86)
Male	54.5 (35–73)
	Patients, n (%)
Sex	
Female	126 (87.5)
Male	18 (12.5)
Site of primary tumor	
Breast	55 (38.2)
Upper gastrointestinal tract ^a	10 (6.9)
Pancreas	10 (6.9)
Colon and rectum	25 (17.4)
Lung	13 (9.0)
Genital tract ^b	28 (19.4)
Unknown	3 (2.1)
Number of metastatic sites	
0	8 (5.6)
1	35 (24.3)
2	60 (41.7)
≥3	41 (28.5)
Types of metastatic sites	
Locally invasive	68 (47.2)
Lymph nodes	57 (39.6)
Bones	37 (25.7)
Lung/pleura	37 (25.7)
Liver	41 (28.5)
Brain	5 (3.5)
Ovaries	3 (2.1)
Other	22 (15.3)
WHO performance status	
0	26 (18.3)
1	57 (39.6)
2	47 (32.6)
3	12 (8.3)
Not documented	2 (1.4)
Time between invasive disease and recruitment to study	
≥3 months	80 (55.6)

^aStomach, small bowel, liver, gallbladder, bile duct.
^bCervix, corpus uteri, ovary.

checked by the available oncological reports. Treatment administered at LK was documented prospectively by detailed entries on preprinted charts. It comprised all elements of conventional, anthroposophic and other CAM therapies. Treatment carried out after hospital discharge was assessed at month 4, again by the Bern team, using the same interview technique, but, for logistic reasons, via telephone.

Compliance with anthroposophic treatment after discharge from LK was calculated as the proportion of patients still using the therapy components prescribed at LK 4 months after discharge. This concerned mistletoe (Iscador®, Weleda, Schwäbisch Gmünd, Germany) and/or other AM preparations, external applications, therapeutic eurythmy, art therapy, diet and counseling. In order to check whether compliance with AM was dependent on performance status, psychosocial or context factors as assessed in the structured interviews, these 7 therapy components were set in relation with the following 7 independent variables: gender, ECOG

Table 2. Conventional medical treatment of patients with advanced cancer 4 months before (n = 144) and after (n = 92–94) as well as during (n = 144) hospitalization at LK

	Patients, n (%)		
	4 months before ^a	at LK ^b	month 4 after ^a
Chemotherapy	35 (24.3)	3 (2)	21 (22.3)
Radiotherapy	21 (14.6)	2 (1.4)	4 (4.7)
Hormone therapy	33 (22.9)	35 (24.3)	26 (27.9)
Corticosteroids	10 (6.9)	14 (9.7)	8 (8.7)
Analgesics WHO III	28 (19.4)	28 (19.4)	21 (22.3)
Analgesics WHO I/II	40 (27.8)	24 (16.7)	16 (17.2)
Sleeping drugs	39 (27.1)	21 (14.6)	19 (20.2)
Antidepressants	5 (3.5)	4 (2.8)	3 (3.2)
Other psychoactive drugs	7 (4.9)	2 (1.4)	5 (5.3)
Diphosphonates ^c	–	10 (6.9)	–
Antiemetics ^c	–	23 (16.0)	–

^aAssessed from patient interview.

^bData obtained from hospital charts.

^cAssessed only at LK.

performance status 0 + 1 vs. 2 + 3, aftercare by anthroposophic or non-anthroposophic physicians, living alone or with others, active or passive coping style, the conviction of being able to exert an influence on the disease by oneself and expectations of AM to influence tumor growth or 'only' QoL. Thus, 49 contingency tables were formed, and testing was carried out using Fisher's exact test. The level of significance was set at 0.05, and $p < 0.1$ was interpreted as a trend.

Results

Table 2 shows the conventional therapies during the 4 months before and after as well as during hospitalization. Regarding chemo- and radiotherapy, the subjective memories of the patients coincided fairly well with the objective data about their therapies, with a tendency to underreporting: chemotherapy 42/144 = 29.2% objectively vs. 35/144 = 24.3% as remembered; radiotherapy 22/144 = 15.3% objectively vs. 21/144 = 14.6% as remembered. This raises the question of whether other therapies indicated for the periods before and after hospitalization at LK might also have been underreported, particularly as chemo- and radiotherapy are usually more impressive, be it due to mode of administration, effects or side effects. This ought to be kept in mind when comparing the 3 treatment periods depicted in table 2. Compared with the preceding period, almost no chemotherapy or radiotherapy was administered during the stay at LK. However, chemotherapy returned to nearly pre-LK levels after discharge, whereas radiotherapy remained low. Hormone therapy increased slightly. The seemingly higher amount of corticosteroids at LK has to be questioned, as patients apparently did not report corticosteroids associated with chemotherapy. Pain therapy with opiates (WHO III) at LK was no more intensive than before, but increased

Table 3. Anthroposophic treatment for patients with advanced cancer during stay at LK (n = 144)

	Patients, n (%)
Mistletoe preparations (Iscador)	
Subcutaneous injection	138 (96)
Intravenous infusion	37 (26)
Intrapleural instillation	4 (3)
Intraperitoneal instillation	7 (5)
Oral dilution	2 (1)
Other anthroposophic medicaments	
Given orally	139 (97)
SC or IV injection	117 (81)
Other homeopathics/phytotherapeutics	23 (16)
External applications	
1–2 types	140 (97)
3–4 types	69 (48)
Massage/balneotherapy	123 (85)
Therapeutic eurythmy	124 (86)
Art therapies	139 (97)
Painting	66 (46)
Modeling	3 (2)
Music	47 (33)
Speech	10 (7)
Colored light	29 (20)

Table 4. Types of physicians carrying out the main tumor control treatment until month 4 after discharge from the LK (patients, n = 92)

	Patients, %
Anthroposophic physician at LK	34.8
Anthroposophically trained practitioner	14.1
Conventional oncologist ^a	26.1
Conventional practitioner, no anthroposophic training ^a	18.5
Conventional oncologist or practitioner ^b	5.4
Other CAM practitioner ^b	0.0
Not specified or data not available	1.1

^aAnthroposophic therapy continued.

^bAnthroposophic therapy discontinued.

slightly thereafter. The prescription of mild analgesics (WHO I/II) was reduced during hospitalization and stayed at that reduced level. Also reduced during hospitalization were conventional hypnotics, antidepressants and other psychoactive drugs. Diphosphonates and conventional antiemetics prescribed at LK are mentioned here for the sake of completeness. However, they were not assessed in the interviews relating to the other 2 periods.

Table 3 provides an overview of AM treatments during hospitalization. 96% of patients received mistletoe therapy with subcutaneous Iscador (3 times a week on average), 26% also received intravenous treatment. Intrapleural or intraperi-

toneal instillation was used in 3 and 5% of patients, respectively, and 2 patients received oral mistletoe drops. Other anthroposophic treatments (mostly of plant or mineral origin) were given orally to 97% and also parenterally to 81% of patients. With 97%, external applications were also very common. Most patients received several different types of external treatment on the ward, and in 85%, additional massages or baths were given in the physiotherapy department. Likewise, 86% of patients were submitted to therapeutic eurythmy and 97% to a form of art therapy, mostly to painting or music (colored light is listed although it is not an art as such, but it utilizes the psychophysiological effects of colors which patients are exposed to in a brightly illuminated room). Practically all patients received counseling with physicians (not listed, as it is regarded as an integral part of therapy). Depending on personal needs, counseling was sometimes intensified by a specially trained physician or, in cases of religious needs, by an external cleric representing the patient's denomination.

Since we believed that compliance with the treatment prescribed at LK might depend on subsequent medical care, we assessed at month 4 which physician had been primarily responsible for each patient's cancer treatment after discharge from LK. Table 4 shows that the largest group (34.8%) received aftercare from LK physicians. When adding up the practitioners with anthroposophic training, 48.9% of patients received mainly anthroposophic aftercare. Slightly more patients (50%) were treated by conventional physicians, half of which were oncologists (26.1%). At month 4 after discharge, 93.5% of patients still received AM, although in 44.6% of cases a conventional physician had taken over the main care. Only 5.4% gave up AM. In contrast, before hospitalization, in 141 of 144 patients (97.9%), tumor treatment had been primarily in the hands of conventional oncologists, while the remaining 3 patients were being treated by an anthroposophic, a conventional and a non-medical practitioner, respectively (0.7% each).

Regarding compliance with anthroposophic therapy, table 5 shows the differences in compliance to various anthroposophic measures after 4 months. The regular administration of Iscador by injection was achieved most frequently (89.5%), followed by other anthroposophic medicines (73.7%), external applications (36.8%), therapeutic eurythmy (29.5%), diet (21.1%) and art therapy (13.7%). If taking into consideration only patients who received explicit written recommendations at discharge, compliance was even higher. With regard to dependence of compliance on performance status, sociodemographic or context factors and structures of patient care, no significant connection was found. Only in 5 of the 49 contingency tables a trend could be identified. Patients tended to be more compliant with Iscador if not living alone, with other AM medication if in the care of an AM physician, with counseling or art therapy if performance was better, and with diet if female (data not shown).

Table 5. Percentage of patients compliant with anthroposophic treatment until month 4 after hospitalization at from the LK (patients, n = 95)

	Mistletoe (Iscador)	Other anthropos. medicines	External applications	Therapeutic eurythmy	Art therapy	Diet	Counseling
Recommendation provided at HD	97.9	85.3	62.1	93.7	57.9	0.0	0.0
Treatment as recommended							
All patients	89.5	73.7	36.8	29.5	13.7	21.1	60.0
With recommendation only	91.4	86.4	59.3	31.5	23.6		
Treatment irregular or incomplete							
All patients	4.2	5.3	11.6	34.7	15.8	51.6	
With recommendation only	4.3	6.2	18.6	37.1	27.3		
Treatment not applied							
All patients	2.1	4.2	12.6	27.4	26.3	17.9	37.9
With recommendation only	2.2	4.9	20.3	29.2	45.5		
Not specified	0.0	1.1	0.0	0.0	1.1	5.3 ^a	1.1
Data not available	2.1	1.1	1.1	2.1	1.1	4.2	1.1

^aPatient followed other dietary rules.

HD = hospital discharge.

Table 6. Additional CAM and psychological methods (PM) other than anthroposophic, used by LK patients at the time of recruitment (n = 144) and at month 4 after anthroposophic therapy at LK (n = 95); multiple uses are possible

	Patients, n (%)	
	at recruitment	at month 4
Homeopathy	13 (9.0)	2 (2.1)
Acupuncture	4 (2.8)	4 (4.2)
Other CAM ^a	2 (1.4)	7 (7.4)
Vitamins	6 (4.2)	1 (1.1)
Other minerals/herbs	6 (4.2)	3 (3.2)
Hand healing	6 (4.2)	1 (1.1)
Other esoteric methods ^a	7 (5.6)	3 (3.2)
Visualization	14 (9.8)	1 (1.1)
Psycho-/group therapy	7 (4.9)	1 (1.1)
Other PM ^a	6 (4.2)	3 (3.2)

Also used (but < 3%): ozone, other massages, baths etc, neural therapy, other diets, teas, fresh cell treatment, spiritual healing, pendulum, gem therapy, autogenic training, positive thinking, esoteric methods from other cultures.

^aNot specified.

Compared with AM and conventional medical measures, the use of other, privately used CAM or psychological measures remained very much in the background. Table 6 shows that although quite an array of such methods were used (all together by 39.9% at hospital admission [34]), each single method was applied by less than 10% of patients. This further decreased by month 4, with the exception of acupuncture and other unspecified methods.

Discussion

This report is the first to present a detailed documentation of the integrated, holistic palliative cancer therapy in an anthroposophic hospital and gives a comprehensive account of conventional, AM and other CAM therapies over time, spanning from 4 months before to 4 months after hospitalization which itself lasted 3 weeks on average.

What does palliative cancer treatment consist of in an anthroposophic hospital? Table 2 shows that the same conventional tumor therapies were used at LK as during the preceding and subsequent phases, although in part to a far lesser extent. The most obvious difference between the hospital stay and the previous period is the drastic reduction in chemotherapy and radiotherapy, whereas hormone therapy increased slightly. Patient preferences and the therapeutic concept at LK appear to account for the following: Patients had come to LK especially to take advantage of the holistic and supportive AM therapies to increase their physical, psychological and spiritual wellbeing [10], which constitutes the central focus of the palliative concept at LK [31]. Some patients may have used a chemotherapy-free period to stay at LK to ameliorate, stimulate immune functions and gain strength for the following toxic burst [4, 9]. Others may have needed a break from chemotherapy and were looking for further alternatives [36]. Some patients had turned to AM because of bad or disappointing experiences with conventional medicine [10], others realized that conventional medicine cannot cure them and preferred a more supporting, QoL-enhancing approach to palliation [10]. The described therapy pattern documents how this approach is handled at LK. Nearly all patients (96%) received mistletoe therapy, some (26%) also by infusion to increase the immunological effects

of mistletoe to the point of inducing febrile responses [44], whereas intrapleural or intraperitoneal administration makes use of the cytotoxic and immunostimulatory effects associated with this route [45, 46].

Regarding pain control, opiates were not restricted, but slight to moderate analgesics were reduced or substituted by homeopathically potentized plants and substances with analgesic properties (particularly when injected) but fewer side effects [47]. Injectable AM drugs were given to 80% of patients. Also, practically all patients received external treatment, such as massage, packs, embrocations, compresses and baths, which also allows the application of pain-relieving warming, cooling or other substances, with the particular effort of personal care possibly also having a relieving and comforting effect.

Conventional hypnotics, antidepressants and other psychoactive drugs were reduced in favor of milder AM preparations. The rationale is to keep consciousness as clear as possible, thus facilitating benefits of art therapies and therapeutic eurythmy which aim at stimulating self-activity, creativity, joy and body-soul harmony. Moreover, the maintenance of consciousness is important for the patient's own cognitive and spiritual management in the last phase of life, and it allows, for instance, counseling with a physician, psychologist or cleric. On the whole, the comparable frequencies of these AM components are in accordance with the anthroposophic concept of giving equal attention to the aspects of body, soul and spirit [38].

What happens after hospital discharge, and how compliant are patients with AM? As our data were gathered by telephone after 4 months, they may be biased by faulty memory similarly to the baseline interview. Another source of bias is the dropout rate of 33% (2/3 due to death, 1/3 due to poor physical status, refusal or logistics). In the remaining 94 patients, after 4 months, the relative use of radiotherapy, hormone therapy, opiates, conventional sleeping drugs and antidepressants had slightly increased again, non-opiate analgesics had remained similar, chemotherapy and other psychoactive drugs had re-ascended to similar levels as 4 months before hospitalization. Several factors might have contributed to this, e.g. new necessities according to disease progression or non-availability of multiple interventions comparable to the setting at LK.

Of special interest is the re-ascend of chemotherapy almost to the original level ($n = 21$, 22.3%). A subanalysis showed that only 9 of these patients (42.9%) had already received chemotherapy in the 4 months prior to hospitalization, and only 2 (9.5%) had originally given up chemotherapy in favor of AM. As these were patient choices prior to hospitalization at LK, and as physicians at LK do not disapprove with necessary conventional treatments, the observed re-ascend of chemotherapy might in part be ascribed to its re-use after a break at LK for the reasons mentioned above and in part by new medical necessities not directly anticipated before. Most

of these treatments were effectuated by external oncologists. The LK physicians' opinions about these treatments were not assessed but would usually be in agreement. None of the patients treated with radiotherapy after discharge had received this treatment in the 4 months prior to LK.

Compliance with AM remained high after discharge, with almost 90% of patients still injecting Iscador and 74% taking other anthroposophic medicines regularly. That the former tends to be higher in patients not living alone and the latter in patients in care of an anthroposophic physician, seems logical. The same is true for compliance with art therapy and counseling which tend to depend on a better performance status. The compliance with external measures and therapeutic eurythmy seems still relatively high (37 and 30%) in that they require external help or instructions. In this respect, a certain self-activity from the patients may be assumed, as eurythmy and art therapists are often scarce in ambulatory settings outside of AM hospitals.

It is interesting that 60% of patients have stated to still communicate with their physicians along the same lines as at LK, especially as only 70.2% of these received aftercare from anthroposophic vs. 29.8% from non-anthroposophic physicians. No conclusion can be drawn from this, as the reasons and contents of these talks were not assessed. Maybe counseling at LK met patient needs which could still be expressed after hospital discharge.

On the other hand, the frequency of other esoteric and psychological methods (visualization, psychotherapy, group therapy, etc) and the use of other CAM methods were reduced, with the exception of acupuncture and other unspecified CAM methods. However, no CAM procedure was used in more than 7.5%. Thus, the relatively high compliance with AM and the fact that the majority remained without new parallel CAM treatments suggests that the majority of these patients benefited from AM. This view is reinforced by the fact that at month 4 more patients were primarily treated by physicians at LK (34.8%) rather than by conventional oncologists (26.1%), especially as only 1 patient had received his main oncological care through an anthroposophic physician before being hospitalized. Moreover, an additional 44.6% still kept to AM, despite being primarily treated by conventional physicians. The reason for this was not assessed. Judging from experience, and as self-medication is not possible, the most probable reason is an ongoing parallel therapy by AM physicians. Interestingly, also in the randomized part of our NFP34 project, the patients additionally treated by an anthroposophic physician at Bern University hospital showed a high and lasting compliance (on average 83% of their remaining lifetime), even though they came from different sociodemographic backgrounds than LK and, being randomized patients, had neither a preference for nor previous knowledge of AM [10, 48]. One reason of such a behavior may be that patients benefit from treatment in terms of their health status and QoL which will be investigated in a consecutive paper.

References

- 1 Ernst E, Cassileth BR: The prevalence of complementary/alternative medicine in cancer: a systematic review. *Cancer* 1998;83(4):777–782.
- 2 Boon H, Stewart M, Kennard MA, Guimond J: Use of complementary/alternative medicine by breast cancer survivors in Ontario: prevalence and perceptions. *J Clin Oncol* 2000;18(3):2515–2521.
- 3 Richardson MA, Sanders T, Palmer JL, Greisinger A, Singletary SE: Complementary/alternative medicine use in a comprehensive cancer center and the implications for oncology: *J Clin Oncol* 2000;18(13):2505–2514.
- 4 Kaiser G, Birkmann S, Büschel G, Horneber M, Kappauf H, Gallmeier M: Unkonventionelle, alternative Therapieverfahren in der Onkologie (Übersicht). *Internist (Berl)* 1998;39:1159–1167.
- 5 Campion EW: Why unconventional medicine? *N Engl J Med* 1993;328:282.
- 6 Durant JR: Alternative Medicine: an attractive nuisance. *J Clin Oncol* 1998;16(1):1–2.
- 7 Dobs AS, Ashar BM: Complementary and alternative medicine. *Sci Am* 2002;7:1–9.
- 8 Salmenperä L, Suominen T, Lauri S, Puukka P: Attitudes of patients with breast and prostate cancer toward complementary therapies in Finland. *Cancer Nurs* 2001;24(4):328–334.
- 9 Berger DP, Obrist R, Obrecht JP: Tumorpatient und Paramedizin. Versuch einer Charakterisierung von Anwendern unkonventioneller Therapieverfahren in der Onkologie. *Dtsch Med Wochenschr* 1989;114:323–333.
- 10 Von Rohr E, Pampallona S, van Wegberg B, Hürny C, Bernhard J, Helwig S, Heusser, Cerny T: Experiences in the realisation of a research project on anthroposophical medicine in patients with advanced cancer. *Schweiz Med Wochenschr* 2000;130:1173–1184.
- 11 Cassileth BR, Chopman CC: Alternative and complementary cancer therapies. *Cancer* 1996;77(6):1026–1034.
- 12 Shumay DM, Maskarinec G, Gotay CC, Heiby EM, Kakai H: Determinants of the degree of complementary and alternative medicine use among patients with cancer. *J Altern Complement Med* 2002;8(5):661–671.
- 13 Sollner W, Zingg Schir M, Rumpold G, Fritsch P: Attitude toward alternative therapy, compliance with standard treatment, and need for emotional support in patients with melanoma. *Arch Dermatol* 1997;133(3):316–321.
- 14 Verhoef MJ, Hagen N, Pelletier G, Forsyth P: Alternative therapy use in neurologic diseases: Use in brain tumor patients. *Neurology* 1999;52(3):617–622.
- 15 Paltiel O, Avitzour M, Peretz T, Cherny N, Kaduri L, Pfeffer RM, Wagner N, Soskolne V: Determinants of the use of complementary therapies by patients with cancer. *J Clin Oncol* 2001;19(9):2439–2448.
- 16 Gray RE, Fitch M, Greenberg M, Voros P, Douglas MS, Labrecque M, Chart P: Complementary health practitioner's attitudes, practices and knowledge related to women's cancers. *Cancer Prev Control* 1999;3(1):77–82.
- 17 Liu JM, Chu HC, Chin YH, Chen YM, Hsieh RK, Chiou TJ, Whang-Peng J: Cross sectional study of use of alternative medicine in Chinese cancer patients. *Jpn J Clin Oncol* 1997;27(1):37–41.
- 18 Swiss Cancer League: *Swiss Cancer Helpline Statistic 1998–2002*. Swiss Cancer League, Bern, 2003.
- 19 Hiller B: Was Krebspatienten wissen wollen. *Alternative Krebstherapie seit 1991*. *Dtsch Ärzteblatt* 2003;100(18):1182–1185.
- 20 Kleijnen J, Knipschild P: Mistletoe treatment for cancer. Review of controlled trials in humans. *Phytotherapy* 1994;1:255–260.
- 21 Dold U, Edler L, Mäurer HC, Müller-Wenning D, Sakellarion B, Trendellenburg F, Wagner G: Krebszusatztherapie beim fortgeschrittenen nicht-kleinzelligen Bronchialkarzinom. Stuttgart, Thieme, 1991.
- 22 Hauser SP: Unproven methods in cancer treatment. *Curr Opin Oncol* 1993;5:646–654.
- 23 Kienle GS, Berrino F, Büsing A, Portalupi E, Rosenzweig S, Kiene H: Mistletoe in cancer. A systematic review on controlled clinical trials. *Eur J Med Res* 2003;8:109–119.
- 24 Hajto T, Hostanska K, Gabius HJ: Modulatory potency of the b-galactoside-specific lectin from mistletoe extract (Iscador) on the host defense system in vivo in rabbits and patients. *Cancer Res* 1989;49:4803–4808.
- 25 Kovacs E, Hajto T, Hostanska K: Improvement of DNA repair in lymphocytes of breast cancer patients treated with *Viscum album* extract (Iscador). *Eur J Cancer* 1991;27:1672–1676.
- 26 Büsing A (Ed): *Viscum album L. treatment in cancer*. *Anticancer Drugs* 1997;8(suppl 1).
- 27 Heiny BM: Additive Therapie mit standardisiertem Mistelextrakt reduziert die Leukopenie und verbessert die Lebensqualität von Patientinnen mit fortgeschrittenem Mammakarzinom unter palliativer Chemotherapie. *Krebsmedizin* 1991;12:1–14.
- 28 Boie D, Gutsch J: Helixor bei Colon- und Rektumkarzinom; in Denk A, Karrer K (eds): *Colorectale Tumoren*. Schriftenreihe Krebsgeschehen 23. Heidelberg, Fischer, 1980, pp 65–76.
- 29 Grossrath-Maticsek R, Kiene H, Baumgartner S, Ziegler R: Use of *Iscaador*, an extract of European mistletoe (*Viscum album*) in cancer treatment: prospective nonrandomized and randomized matched pair studies tested within a cohort study. *Altern Ther Health Med* 2001;7(3):57–78.
- 30 Boyle H, Clover A, Fisher D, Last P, Wright P: Complementary Cancer therapy: a pilot study of patients, therapies and quality of life. *Complement Ther Med* 1995;3:129–133.
- 31 Hürny C, Heusser P, Bernhard J, Castiglione M, Cerny T: Verbessern nicht-konventionelle Zusatztherapien die Lebensqualität von Krebspatienten? *Schweiz Med Wochenschr* 1994;124(suppl 62):55–63.
- 32 Cerny T, Heusser P: Untersuchungen der Lebensqualität von Patienten mit metastasierendem Brust- oder Darmkrebs, behandelt in der anthroposophischen Medizin oder in der Schulmedizin, letztere mit oder ohne psychoonkologische oder anthroposophische Zusatztherapie. *Forsch Komplementärmed* 1999;(suppl 1):35–37.
- 33 Van Wegberg B, Pampallona S, von Rohr E, Heusser P, Helwig S, Siebert L, Cerny T, Hürny C, Bernhard J: Quality of life differences and similarities with advanced cancer seeking conventional vs unconventional treatment. *Annex C in: ref 37, 1998*.
- 34 Von Rohr E, Pampallona S, van Wegberg B, Cerny T, Hürny C, Bernhard, Helwig S, Heusser P: Attitudes and beliefs towards disease and treatment in patients with advanced cancer using anthroposophical medicine. *Onkologie* 2000;23:558–563.
- 35 Van Wegberg B: Supportiv-expressive Gruppentherapie bei Krebspatienten. Durchführbarkeit und Therapieevaluation. Dissertation Universität Zürich, 1999.
- 36 Pampallona S, von Rohr E, van Wegberg B, Bernhard J, Helwig S, Heusser P, Hürny C, Schaad R, Cerny T: Sociodemographic and medical characteristics of advanced cancer patients using conventional or complementary medicine. *Onkologie* 2002;24:165–170.
- 37 Von Rohr E, van Wegberg B, Pampallona S, Heusser P, Hürny C, Bernhard J, Helwig S, Castiglione M, Cerny T: Wissenschaftlicher Schlussbericht. Nationales Forschungsprogramm 34, Projekt 4034–35886. Nicht-konventionelle Zusatztherapien bei Krebs. Bern, 1998.
- 38 Heusser P: A basis for the understanding of anthroposophical medicine and cancer therapy. *J Anthroposophic Med* 1991;8:5–38.
- 39 Steiner R, Wegman I: *Fundamentals of therapy. An extension of the art of healing through spiritual knowledge*, ed 2. London, Rudolf Steiner Press, 1983.
- 40 Bockholt M: *Grundelemente der Heileurhythmie*, ed 3. Dornach, Philosophisch-anthroposophischer Verlag am Goetheanum, 1981.
- 41 Astin JA: Why patients use alternative medicine. *JAMA* 1998;279:1548.
- 42 Handel DL: Complementary therapies for cancer patients: what works, what doesn't, and how to know the difference. *Texas Med* 2001;97(2):68–73.
- 43 Kaptchuk TJ, Eisenberg DM: The persuasive appeal of alternative medicine. *Ann Intern Med* 1998;129:1061–1065.
- 44 Hajto T, Lanzrein C: Natural killer and antibody-dependent cell-mediated cytotoxicity activities and large granular lymphocyte frequencies in *Viscum album*-treated breast cancer patients. *Oncology* 1986;43:93–97.
- 45 Salzer G: Pleura carcinosis. Cytomorphological findings with the mistletoe preparation *Iscaador* and other pharmaceuticals. *Oncology* 1986;43(suppl 1):66–70.
- 46 Salzer G, Popp W: Die lokale *Iscaador*-Behandlung in der Pleurakarzinose; in Jungi WF, Senn HJ: *Krebs und Alternativmedizin II*. Berlin/Heidelberg, Springer, 1990, pp 36–49.
- 47 Simon L: Schmerztherapie mit homöopathisch potenzierten Heilpflanzen. Heidelberg, Haug, 1987.
- 48 Heusser P: Lebensqualität bei fortgeschrittenen Tumorkrankheiten. Anthroposophische Krebstherapie im Rahmen des Nationalen Forschungsprogramms 34 (NFP 34); in Heusser P (eds): *Akademische Forschung in der Anthroposophischen Medizin*. Bern, Peter Lang, 1999, pp 341–352.