Volume 20, No 1 | International Journal of Radiation Research, January 2022

Palliative effects of bioresonance therapy with or without radiotherapy or chemotherapy on cancer patients

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► ***Original article***

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Received: June 2020
Final revised: February 2021
Accepted: March 2021

Int. J. Radiat. Res., January 2022; 20(1): 43-48

DOI: 10.52547/ijrr.20.1.7

Keywords: *Bioresonance, oncology, ECOG performance scale, VAS, ESAS, palliative.*

ABSTRACT

Background: The side effects of therapies such as chemotherapy (CT), radiotherapy (RT) and surgery in cancer patients are very high. For this reason, even when recovery is achieved in cancer, life is often shortened due to the side effects of treatments. Bioresonance treatment (BRT) on cancer is intended to reduce cancer-related complaints such as pain, nausea and weakness or treatment side effects. ***Materials and Methods:*** In this study, BRT effects have been evaluated according to the performance status, symptomatic recovery after the therapy in cancer patients treated with the BICOM BRT with or without RT or CT. We used to Ai programs, harmonious inverted and disharmonious inverted (Hi-Di) programs for the treatment of, pain, nosea, dispnea etc. complaints with using local electrods of BICOM machine. ***Results:*** A statistically significant difference was found between the treatment response averages of BRT application groups according to ECOG performance (Eastern Cooperative Oncology Group performance) scale. It is understood that the BRT treatment response was obtained later sessions of the group wich have better scoring ($p = 0.005$). ***Conclusion:*** The treatment response of with worse ECOG performance scoring of patients was better in early sessions than late sessions of BRT. Whereas the response time was shorter than the late responding patients. BRT method decreased to side effets of conventional cancer therapies also increased to the quality of life and palliation of patients.

INTRODUCTION

With CT, RT and surgical methods, which are the primary treatments in cancer, side effects are sometimes so high that they can completely eliminate the curative effect. Therefore, different treatments such a BRT, biofeedback have been developed to increase the effectiveness of cancer treatments and to reduce side effects [1]. Normally, healthy cells and tissues have their own unique radiofrequency and electromagnetic waves. The waves and frequencies emitted by these cells gain pathological character in cancer and other diseases. BRT aims to restore the pathological waves caused by DNA damage in unhealthy cells or organs to normal. In BRT, these pathological frequency waves can be converted to normal frequency after being diagnosed and detected by the device and returned to the patient to improve complaints. This treatment is performed with a machine that reads radiofrequency waves coming from the body through electrodes placed on the patient [1, 2].

The factors causing the disease can be eliminated instead of suppressing the symptoms with BRT. The disease is reversed by considering each step of the disease progression. The organism returns to its initial healthy condition [2-5].

Since 1970, MORA BRT has been applied as a complementary treatment method in many diseases. Inability of smoking cessation and atopic dermatitis are problems and diseases which BRT is first used for treatment [2]. BRT has also been used for pain relief in degenerative or herniated disc diseases [3-5]. It was reported that BRT can have positive effects on heart rhythm and reduce stress [6].

In a randomized controlled study conducted on 50 patients diagnosed with hypothyroidism, BRT was added to the main group in addition to replacement therapy. It was seen that the free thyroxine fraction value in the main group increased significantly compared to the control group and placebo group. Thyroid stimulating hormone (TSH) and high density lipoprotein (HDL) values were reported to be significantly decreased compared to the control group and placebo group [7].

It has been shown that BRT combined with transdermal active agents can reduce lymphedema [8]. Yet another placebo-controlled trial showed that non-organic gastrointestinal symptoms could be successfully treated with BRT. A more significant effect was observed especially in stomach pain and meteorism ($p < 0.01$ and $p < 0.05$) [9].

As a result of researches on BRT, chemical, physical and biologic mechanisms of action have been

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[DOI: 10.52547/ijrr.20.1.7]

revealed. Bernstein described the bioelectric properties of cells. Wagner calculated the permeability of the cells based on electrical communication. Some researchers have described mitogenic radiation, dark bioluminescence, and low-dose radiation with weak lumeness. Popp FA found biophoton theorem and made an important step in BRT [10].

Another important point that will explain the basic principle of BRT is actually the memory of water.

In 1988, Jacques Benveniste and his team published an article on the memory of water in the journal Nature. It has been shown that the effects of substances that persist in water can continue for years even when these substances are absent. Homeopathy, BRT treatments were based on this information [11]. Chaplin radiofrequency information is transmitted between the vascular networks in the body and the Bonghan vascular network, which is accepted as the 4th vessel network, between the meridians [12].

In addition to that, the BICOM BRT test and therapy method, with an additional advantage and superiority that is unique to it, gives an opportunity to test pathogenic factors such as environmental toxins, food allergens, fungi, bacteria, viruses, and parasites in a non-invasive manner and in a broader perspective. Any pathogenic factors can be eliminated easily from the body by applying frequency modulations. This method can even detect any pathogenic effect recorded in the memory in the form of degrading focus areas that are silent when there is no active illness. Priority is only published in the form of a case report, randomized studies are done and valuable results can be obtained [13].

Thus, when the disease emerges, the factors causing the disease can be eliminated instead of suppressing the symptoms. Deteriorated regulation and the balance of the body can again be supported by reminding the body. As a result, the disease is reversed by considering each step of the disease progression. The organism returns to its initial healthy condition [14, 15].

This approach also constitutes as the basis for our approach to treat the oncology cases using the BICOM BRT method. Our approach to reverse fundamental regulation in the oncology cases is to reestablish the degenerated sympathetic and parasympathetic regulations and open the blocked extracellular matrix. Effects of BRT in cancer treatment is mainly explained with two mechanisms. Firstly, the reflection of the endogenous BRT on the tumor is different to those on normal tissues. In this manner, it may lead to a direct cytotoxic effect. Secondly, it may induce an anticancer effect by strengthening the immune system [16].

Current evidence suggests that tumor-specific modulation frequencies regulate the expression of related genes and disrupt the mitotic problem. Better understanding of the molecular-level effects of tumor -specific modulation frequencies with anticancer effects will bring a new breakthrough in cancer treatment [1].

With BRT, it is aimed to open the blockages in the vascular and nervous systems for symptom palliation. In the current study, the evaluation the effects of symptom palliation of BICOM BRT in oncology patients has been targeted.

MATERIALS AND METHODS

Our study is a cross-sectional descriptive study based on prospective evaluation of information obtained from patient records.

Study population

In the current study, the evaluation of the 51 oncology patients treated with the BRT, who Ages between 21 and 81, with or without treated surgery, CT / and or RT, ECOG peformances 2-4 between 2015 – 2019 (table 1).

Table 1. Clinical and demographic characteristics of BRT patients.

Characters	Number of patients	%
Gender		
Female	27	52.9
Male	24	47.1
Age		
21-40	10 (±5.8)	19.6
40-60	29 (±5.3)	56.8
61-84	12 (±6.5)	23.5
ECOG scoring		
2	11	21.5
3	25	49
4	15	29.4
Stages		
I	3	5.8
II	6	11.7
III	5	9.8
IV	37	72.5
Tumour characteristics of BRT patients		
Tm sites		
Lung	10	19.6
Breast	7	13.7
GE/Hepatic	17	33.3
Brain	2	3.9
Haemathologi c	4	7.8
Skin	1	1.9
Bone	1	1.9
Head-neck	3	5.8
Genito-urinary	6	11.7
Histopathology		
Adenoca	26	50.9
IDK	7	13.7
SCC	3	5.8
GBM	2	3.9
RCC	2	3.9
Other	11	21.5
Total	51	100
The patient treatment status before BRT		
S- CT and/or RT +	16	31.4
S+ CT and/or RT+	14	27.4
S- CT- RT-	12	23.5
S+ CT- RT-	8	15.7
Total	51	100

Tm: Tumour, GE: Gastroenterology, Adenoca: Adenocancer, IDK: Invasive ductal cancer, SCC: Squamose cell cancer, GBM: Glioblastoma Multyforme, RCC: Renal cell cancer, S: Surgery, CT: Chemotherapy, RT: Radiotherapy, BRT: Bioresonance.

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The distribution of malignancies according to organs

Lung was 19.6%, breast 13.7% and GE/Hepatic 33.3% in all patients (table 1). Selected histopathologic diagnoses; 51% (n = 26) adeno Ca and 5.9% (n = 3) were squamous cell carcinoma (SCC). 72.5% of the cases had metastasis (table 1). 45.1% had a comorbid chronic illness. 23.5% of our oncology cases who were referred to BRT had not undergone any conventional therapy yet. 5.9% were all patients who had gone through all the treatment processes and were too shy to take treatment. The patient treatment status before BRT shown in table 1. The patient symptom status before BRT was shown in table 2.

Table 2. The patient symptom status before BRT.

Symptoms	Number of patients	%
Pain	37	72.5
Weakness	45	88.2
Nosea-Vomitus	23	45
Paresia- Plegia	5	9.8
Ascites	6	11.7
Dispnea	11	21.5

Patient groups

Group 1 consist of 11 patients which ECOG scoring were 2.

Group 2 consist of 25 patients which ECOG scoring were 3 and

Group 3 consist of 15 patients which ECOG scoring were 4. The ECOG performance scale was used for assessing the performance status [17]. VPS used for determine to pain status. The VPS values are assessed by asking the patients for determined to their pain intensity, ranging from 1 (low pain) to 10 (intense pain) [18]. ESAS scale used for determine to different symptoms such a pain, nosea, dyspnea, stress, depression, fatique, weakness, insomnia ranging from 0 to 10.

Bioresonance therapy (BRT)

BRT was applicated with using BICOM Optima 2000, Regumed, (German). Flexible or metal input and output electrodes are placed to various parts of the body. The modulation electrode is placed in the patient's back area as the output electrode. Biological fluids and substances such as saliva, blood, hair, urine, and feces belonging to the patient are placed in the input cup in order to receive pathological frequencies.

Input electrode and cup

It takes pathological frequencies from the patient and transmits them to the device.

Output electrode and cup

The electrodes ensures that the pathological frequencies taken from the patient are turned into useful frequencies in the device and returned to the patient. Water is put into the cup.

After the patient's energy balance is tested with an electroacupuncture device, basic therapy is performed with appropriate energy. Following the basic therapy, the blockages that occur in the cicatrix areas such as the operation incision lines are eliminated and the energy flow is provided.

1.3- Hz–113 kHz range known as cancer-specific frequencies. The BICOM device has 1.3 Hz – 152 kHz frequency band-pass filtre, also can using with a more narrow or fixed frequency band. The device can amplify 0.05-64 times the received frequencies. The device filter out harmonious oscillations (H) from disharmonious (Di). The process of all inverted electromagnetic oscillations defined as Ai- function and (Di) part of oscillations as Di function [19]. The power density was less than 1 mW/m2 on the surface of output electrodes.

I) Ai programs used for the treatment of pathogens-viruses, parasites, bacteria, heavy metals and food intolerances which causing cancer and its symptoms at 0.5-1 of amplifications, 15-20 sec of run speed of bandpass with 2-25 min.

II) Harmonious inverted and disharmonious inverted (Hi-Di) programs that general regulation programs used for nutritional intolerance and natural preparation of cancerous tissue, at 0.1-2 of amplification, 1.3– 152kHz of frequencies with 2-30 min and 1-7 days of interval. BRT characteristics of patients shown to table 3.

Table 3. BRT characteristics of patients.

BRT use	Med Time/Sess (min)	Number of patients	%
Input Electrode Locations			
Upper Abdomen	24	51	100
Lower Abdomen	7	51	100
Thorax	14	51	100
Thymus	7	51	100
Jaw	12	51	100
Brain	5	51	100
Other	13	51	100
Frequencies			
LDF < 10 Hz	29	51	100
*1.3 Hz-7.4 Hz	21	51	100
*7.6Hz-10 Hz	22	51	100
10-980 Hz	51	51	100
1-152 kHz	27	51	100

BRT: Bioresonance Therapy LDF: Low Deep Frequency Med Time/Sess (min): Median treatment time for per session.

Determine to therapy success

Therapy success was determined by ECOG and VPS scorings, ESAS scales for evaluation of patient symptom relief and complaints that pain, vomiting, nosea and weakness etc. Direct testing of the electroacupuncture points (EAP), computed thomography, magnetic resonance (MR) Positron Emission Computed Thomography (PET CT) images and laboratory tests used before and after BRT to show any improvement in their symptoms or diseases.

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Statistical analysis

We used Instat Statistical Package Program (Instat Graphad Software v5.0, San Diego, CA, USA). One way Anova and post hoc Dunnett tests were used as statistical analysis to compare 3 groups according to performances and scoring scales for statistical analysis. P < 0.05 was considered to be statistically significant.

This study was conducted in accordance with the Declaration of Helsinki. Informed consent was obtained from the patients.

RESULTS

Improvement in ECOG, VAS, ESAS scoring with symptomatic relief were shown in 47.1% of patients. Additionally laboratory and imaging findings were improved in 33.4% of the patients. 87.8% of the patients did not need to intensive care.

When the number of sessions increased, the palliation and response of therapy improved based on data classification (table 3, 4, 5).

A significant improvement in ECOG performance scores was observed only in the group of patients with high baseline ECOG performance score (3-4) who received BRT with conventional therapy, compared to patients receiving BRT alone (table 4).

The patient symptom relief after BRT shown to table 6.

Best responded programs were stomach meridian (25 kHz and 800 kHz), for stomach symptoms (1.8-7.2 Hz) H+Di and 4 minutes and 73.9% response), lung meridian (10.2 Hz, H+Di, 4 minutes and 63.6% response), sacrum blockade (10 Hz and 52.9% response). Symptoms with greatest improvement with BRT are nosea and vomit (100% with different degrees of relief on 23/23 patients), pain (83.7% relief of 31/37 patients) and dispnea (81.8% relief of 9/11patients).

Outcomes of BRT on ECOG 2-4 of cancer patients shown to table 7.

In 5 patients have brain metastases or primary brain tumour, 20% improvement was observed in 40% (2 of 5 patients) for the paresis and plegia symptoms or evidences.

Two patient who had stage III and IV multipl myeloma have pain, infection, weakness symptoms and ECOG scoring 3-4. In 12. sessions of beweekly BRT their symptoms were markedly decreased. Their ECOG, VAS and ESAS scores have decreased from 4 to 0-1 points.

One of complete and the other 80% response were achieved in two non-hodgkin's lymphoma (NHL) patients.

23 of the 51 patients died after 60 months follow up periods. Median survival was 10 months in these 23 died patients that 10 of in group 2 and 13 in group 3. Furthermore 7 of 23 died patients lived between 15 -44 months. Five year and three year overall survival were 45.09% and 76.47% respectively in all 51 patients. Five year survival rate was obtained to 2 of 15 patients (13.3%) in ECOG 4 (Group 3) patients.

Table 4. ECOG performance scoring changes of patients according to number of BRT session who had non taken oncologic (RT or CT) treatment other than BRT (p=0.005).

Score Before BRT	3. session s Median	6. session s Median	12. session s Median	24. session s Median
*2	2	2	1	1
3	3	3	3	2
*4	3	4	4	3

BRT: Bioresonance therapy, s: Score, *: Statistically significant.

Table 5. ECOG performance scoring changes of patients according to number of BRT session who had taken oncologic (RT or CT) treatment other than BRT (p=0.005 for between group 1 and 3 patinets).

Scoring Before BRT	3. session s Median	6. session s Median	12. session s Median	24. session s Median
*2	1	1	2	1
3	2	2	1	1
*4	3	3	3	3

BRT: Bioresonance, s: Score, *: Statistically significant

Table 6. The patient symptom relief after BRT.

Symptoms	Number of sr patients	Median relief (%)
Pain	31/37 (83.7%)	70
Weakness	24/45 (53.3%)	40
Nosea-Vomitus	23/23 (100%)	90
Paresia- Plegia	2/5 (40%)	20
Ascites	1/6 (16.6%)	10
Trombophlebitis	4/7 (62.5%)	50
Dispnea	9/11 (81.8%)	70

sr: Symptom relief.

Table 7. Outcomes of BRT on group 1-3 of cancer patients.

BRT	Median ses. number	Maximum ses. number	Median survival Month	PR Med %	CR Med %	Palliat Med %	3ys %
ECOG 2	28	540	22	15.7	5	70	100
ECOG 3-4	40	540	15	23.5	0	80	43.3

BRT: Bioresonance, ses: Session, Max: Maximum, PR: Partiel response CR: Complete response, Pall: Palliation, ys: Year survival, Med.: Median, li: Still living.

Statistical analysis

A strong and significant correlation was found between the BRT response and the number of sessions (Table 6, 7) (r = 0.654 p <0.001).

A statistically significant difference was found between the treatment response averages of BRT application groups according to ECOG scoring. The statistical analysis shown that the treatment response of the group with a better ECOG performance score (Group 1) in the BRT admission was later in the sessions than group 3 (p = 0.005). There are no any toxicity assessed related to BRT in this study.

Maximum follow up times of BRT patients were 60 months and minimum 1 month.

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DISCUSSION

BRT treatment has limited using in oncology since there are not enough clinical studies [20-23]. The first known important clinical study was performed by Barboftali et al. The therapeutic efficacy was demonstrated when certain frequencies were applied locally on tumour sites that hepatocellular carcinoma (HCC), pancreatic, colorectal, ovarian, breast, prostate, lung and bladder cancers. Cancer cell proliferation is inhibited by specific modulation frequencies. BRT can improve the immune system weakness [19, 24]. Side effects of cancer therapies have been reduced in various types of cancer such as hepatic, breast, ovarian, pancreatic, colon cancers, glioblastoma and the results of the treatment have been found to be successful [25-27].

Similar to BRT, many different devices have been developed that can perform target-specific treatment. Non-invasive biofeedback, magnetic field devices and techniques work in the same way as BRT. Their mechanism of action and results are very similar [1]. By using tumor-specific frequencies, direct cytotoxic effects on tumor cells can also be obtained. In one study, it has been reported that long-lasting objective response can be obtained with 27.12 MHz electromagnetic fields with intrabuccal application without causing side effects in cancer [1].

In this study, symptomatic improvement was seen in all BRT patient groups. BRT affects the performance scale positively in all patient groups with or without conventional therapy. It was noticed that symptomatic improvement in patients with high ECOG scoring were seen at early sessions and later sessions in patients with low scoring.

In this study, it was shown that the type of cancer with the best response by BRT are MM and NHL, which are haematologic cancers.Their complaints of pain, weakness were markedly decreased with beweekly BRT.

When evaluated analyses of this study, BRT with conventional cancer therapy provided a significant advantages over BRT or convantional therapy alone in high baseline ECOG performance score. It is understood that the BRT treatment response of patients with worse ECOG performance scoring was in early sessions than with a better scoring.Whereas the response time was shorter than the late responding patients. Significant symptomatic improvement and palliation were observed in ECOG IV patients. This seems to support the principle of using the patient's vibration information converted to the therapy frequency in the BRT method. The higher the severity of pathologic information, the stronger the treatment power generated. Despite good response rates, no toxicity was detected with BRT. Symptoms with greatest improvement with BRT are nosea and vomit, pain and dispnea.

Five year survival rate was obtained to 2 of 15 patients (13.3%) in ECOG 4 (Group 3) patients.

In other studies in the literature, the survival rates of advanced cancer patients with low-performance are very low, ranging from a few days to months [28-30]. Therefore, the results obtained in this study are successful.

The side effects of cancer therapies can decrease and the effectiveness can increase by the person-specific planning of BRT.

CONCLUSION

BRT an easy applicable method in cancer patients; It is a safe, effective treatment method that increases the success of conventional therapy, reduces side effects, contributes positively to patients quality of life, life span and palliation. In oncology clinical practice, multidisciplinary approach and supportive therapy may be included, pre-clinical and clinical advanced researches can planning in the field of activity.

ACKNOWLEDGMENTS
None

Ethical considerations: Ethical approval was obtained from the Clinical Research Ethics Committee of Bezmialem Foundation University with the date and number 22-01-2015/1205.
Funding: None
Conflict of Interest: *None to declare*
Author contributions: (E.K), MD: Suggesting main idea, writing part of manuscript, edition. (H.S.K), MD: Suggesting main idea, data acquisition, writing part of manuscript, edition. (R.Y): Data acquisition, editing.

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[DOI: 10.52547/ijrr.20.1.7]