

VI. International Bemer Medical Convention

2017. Budapest



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18 training points for healthcare workers!

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Overview of the pathophysiological findings related to microcirculation disorders, current diagnostic and therapeutic possibilities and their limitations

Prof. Dr. med. R. Klopp / Institute for Microcirculation, Berlin / IB College, Berlin.

- Summary of the present knowledge on organ circulation and periodicity.
- The stimulation of (local) regulatory disorders.
- Findings of the study on the use of “physical micro-vessel therapy” for geriatric patients with wound healing disorders.
- First publication about the result of a quality control study
(The comparison of 21 commercially available micro-circulation stimulation devices).
- Outlook

The Challenges of Chronic Illnesses: Is it Time for a New Treatment Paradigm?

Univ. Prof. Dr. Dr. Fred Harms

Vize-Präsident

Europäische Stiftung für Gesundheit European Health Care Foundation EUHCF

Do we have too many or too few health providers? Is our medical care efficient, or are we squandering our future? Do we need more innovations or more generic approaches? Should the state regulate everything? Can and must every individual assume greater responsibility, including of a financial nature? These and similar questions have been the subject of controversial discussions for years, resulting in answers which could hardly be more divergent.

The starting point is more than unambiguous – in the 19th century, 80% of all people died from infectious diseases, and this figure was still almost 50% as recently as in 1930. In contrast, only 1 % of all people in Austria, Germany and Hungary have been dying of these acute diseases since 1980.

Yet: people continue to die. However, the reason for this has changed completely in the course of only half a century: It is no longer wars, epidemics and injuries which are accountable for most lethal events. Instead, nine out of 10 people in the industrial nations die from chronic illnesses.

25 percent of all people in Austria, Germany and Hungary suffer from chronic illnesses. An estimated 9 million people suffer from chronic backache, 7 million from arthrosis in the knee joint, 5 million from poly-arthrosis and 2.5 million from inflammatory rheumatic illnesses. 4.5 million people suffer from depression requiring treatment, 2 million suffer from dementia and 1.5 million from Alzheimer's. Every year, 400,000 people face a heart attack, every two minutes somebody incurs a stroke.

Care of acute versus chronic illnesses

Where is the crucial difference between the care of acute and chronic illnesses? A distinctive characteristic is the extent of the influence that the patient has on their recovery or the success of their therapy. The patient has comparatively little influence on their recovery in the case of acute illnesses. Such a patient depends on an effective antibiotic or a good surgeon, for instance. In these classic examples, the doctor needs to explain to the patient exactly what medicine, above all, can do for the patient. Further communication comprises essentially communicating to the patient what they have to do or avoid over and above the medical therapy measures – a process which is totally appropriate for the care of acute illnesses and which has proven its worth. The role of the patient: it is down to the patient to decide whether or not they wish to be treated accordingly.

However, needs have changed fundamentally over recent decades. These days, the main complaints for which patients go to doctors' surgeries and hospitals are back pain, cardiovascular diseases, Type-2 diabetes, depression and smokers present with COPD (chronic obstructive lung disease) or a mixture thereof, i.e. multi-morbidity. This means that GPs in particular spend up to 85 % of their time attending exclusively to these five illnesses. A new feature of this morbidity setting is that it is not the doctor that exerts the greatest influence on the success of the therapy, but rather the patient themselves.

Scientific evidence on the efficacy of the BEMER treatment

By using the BEMER systems with additional signal for stimulating the vasomotion, the following changes to the characteristics of the microcirculation system were proven: the increase of a prior lower rate of spontaneous vasomotion waves, increased arteriolar and venular flow, increased number of blood cell-perfusing capillaries and the hence improved distribution state of the blood in the microvascular network, multiplied venular oxygen exploitation and effective influence of immunological behavior characteristics of leucocytes, multiplied adhesion and transmigration. Today, the BEMER technology and its use by means of specific application systems is an effective, targeted, physical treatment method for illnesses with a dysfunctional microcirculation.

Since pharmacological interventions are extremely limited, especially in the field of small-caliber arterioles with auto-rhythmic vasomotion, the BEMER[®] Physical Vascular Therapy is a treatment option for the improvement of the microcirculation system which has practically no competition. If you consider that a dysfunctional microcirculation has been established as the cause of numerous vascular illnesses and unfavorably influences many common illnesses (back pain, diabetes Type-2, cardiovascular diseases, etc.), the medical as well as the economic importance of this complementary therapy concept becomes apparent. Although the medically relevant effects of the BEMER[®] Physical Vascular Therapy do not imply a substitute for established treatment concepts, they present an effective, therapy-optimized complementary method for numerous indication fields.

Post Market Surveillance

As part of the legally prescribed market observation of certified medicine products carried out during the period between April 2011 and March 2013 using 658 validated patient questionnaires, it was ascertained that, based on three scientifically acknowledged scales for evaluating sleep disorders (the Jenkins Score) and pain intensity according to Borg and the SF12 for presenting the physical state of health (life quality), a significant betterment of clinical/psychological parameters were recorded in all areas. With the patient collective, 72 % of those asked suffered from complaints to the musculoskeletal system. In the case of 48% participants of this investigation, of which over half (approx. 70%) had been experiencing the symptoms for over a year, an improvement to the state of health was recorded. A partial improvement was observed in a further 20 % of the patients.

From this aspect, two-thirds of all users benefitted from the BEMER[®] Physical Vascular Therapy. This result documents what it is possible for patients provided with relevant technologies and the initiative to manage their own illnesses under the patronage of a trained therapist to achieve if they take the initiative. This is precisely where the future of our health system lies. It is precisely at this interface that BEMER Int. AG is making a constant contribution towards improving patients' care.

BEMER Therapy Combined with Physiotherapy in Patients with Musculoskeletal Diseases: A Randomised, Controlled Double Blind Follow-Up Pilot Study

Tamás Bender M.D., Ph.D., D.Sc.

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Budai Irgalmasrendi Hospital

Summary

Background

This study evaluates the effect of adjuvant BEMER therapy in patients with knee arthrosis and chronic low back pain in a randomized double blind design.

Methods

A total of 50 patients with chronic low back pain and 50 patients with osteoarthritis of knee took part in this study and were randomized into 4 groups. Hospitalized patients received a standardized physiotherapy package for 3 weeks followed by BEMER therapy or placebo.

Results

In patients with low back pain, the comparison of the results obtained at the first and second visit showed a significant improvement in resting VAS scores and Fatigue Scale scores. The Oswestry scores and Quality of Life Scale scores showed no change. In patients with knee arthrosis, the comparison of the first and second measurements showed no significant improvement in the abovementioned parameters, while the comparison of the first and third scores revealed a significant improvement in the Fatigue Scale scores and in the vitality test on the Quality of Life Scale.

Conclusions

Our study showed that BEMER physical vascular therapy reduced pain and fatigue in the short term in patients with chronic low back pain, while long-term therapy appears to be beneficial in patients with osteoarthritis of knee.

Keywords: BEMER, physical vascular therapy, pain, magnetic field, low back pain, arthrosis

BEMER therapy – efficiency, results achieved in andrology practice

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Andrology Centre

Training Centre for the European Academy of Andrology

Andrology is the field of science with a relatively short history, which deals with male health. Its dynamic development is well reflected by the fact that by today it covers several areas of speciality: male infertility, disorders of sexual life, male climax and male contraception.

The significance of andrology as a separate area of specialty lies in the fact that the demographic trends in Hungary are showing a constantly negative trend (low birth rate, high mortality).

In 2010 the European Association of Urology classified the causes of male fertility based on the results of an international multicentre study.

Unknown cause	31,0%
Maldescended testes	7,8%
Inflammation	8,0%
Sexual disorders, disturbance of ejaculation	5,9%
General, systemic diseases	3,1%
Varicocele	15,6%
Hormonal causes	8,9%
Immunological causes	4,5%
Ejaculatory duct obstruction	1,7%
Other disorders	5,5%

While previously women were clearly identified as the reasons for the inability to conceive children, it is a well-known fact by today that infertility problems affect men and women 50-50%. The causes affecting both sexes constitute only about 20% of these, while about 40-40% are causes of infertility are unique to men or to women. The ratio of infertile couples at present is about 15%.

The World Health Organization (WHO) issued the 5th edition of its laboratory manual in 2010, which provides significant assistance for the standardised analysis and assessment semen.

Based on andrological indication we treated 22 individuals between October 2014 and March 2017. We recorded patient outcomes in a table. Thanks to the evolution of new diagnostic methods we

were able to carry out DNA fragmentation and ROS positivity tests in a few cases. We also wanted to find out what impact BEMER therapy had on the integrity of the DNA in the sperm head.

Depending on the extent of the improvement shown the patients underwent 2 month-long treatments on average (1-3 months), the indications for which were decided based on the initial consultation and sperm analysis. In every case sperm analysis and hormone-level testing was performed at the outset, monthly during the course of the therapy and finally at the end. The hormones tested were the following: TSH, FSH, LH, Prolactin, Estradiol, Progesterone, Total testosterone, Free testosterone and Vitamin D3.

Summary

We extended the „pilot study“ performed last year with those recruited according to the previously agreed protocol, which we complemented with further tests. All this substantiate the need for BEMER therapy in treating male infertility. This is all the more applicable because it is widely known are that the success assisted reproduction depends on the successful preparation of the male party. Therefore, it is suggested to use all therapeutic interventions possible that could result in maximum improvement of spermatogenesis (in the majority of cases when used in combination therapy). When selecting the treatment options due attention should be paid to the fact that spermatogenesis (sperm production) is taking place in a “testicle-epididymis unit” which is under strict vascular and neuro-hormonal regulation.

The advantage of the BEMER therapy for the patient is that it is painless, convenient and can be adjusted to individual needs with a view to achieving the best results. It supports micro-circulation, tissue function, hormone production and function, regeneration processes and finally has an antiaging and rejuvenating effect. It helps to improve vasomotion values, because this value clearly decreases as a result of aging processes. It helps drugs administered in complex therapy to find their way to the tissues more successfully. Less drugs administered mean less side-effects to be taken into account.

In well classified cases the BEMER therapy deserves a place among therapy options. With respect to another advantage of the therapy in harmonising macro- and micro-circulation and improving the functioning of arteriolae and the venulae on the micro-circulation side, it also seems to be a good choice in treating male infertility – especially in the case of varicocele patients.

It is still to be seen in the future whether, similarly to the changes happening in diagnostics – ie. the use of ultrasound in basic diagnostics - the BEMER therapy will be able to rearrange the therapeutic order and in certain cases to prevent surgical intervention. A larger population of patients, more precise patient classification and consistent follow-up will be required for more precise conclusions to be drawn.

Monitoring of BEMER treatments - tailor-made therapy

Dr. István Rozsos Ph.D.

Vascular surgeon

Classical, drug and intravenous treatments administered to patients with circulatory disorder do not always result in the improvement of their status. There is often a lot of suspicion around complementary therapies.

The BEMER treatment – which is essentially physical micro-vessel therapy – allows us to significantly improve the status of the patients that we are treating.

The preconditions for efficiency are appropriate diagnostics and the use of well selected treatments.

Methods applied: we used the BEMER and the Precise 6000 ionized oxygen therapy interventions to complement the drug treatment for 3 groups of patients suffering from arterial circulatory disorders.

1. Patients with **chronic–critical** limb ischemia
2. Patients with critical limb ischemia – with **trophic disorder**
3. Patients with **diabetes** induced trophic disorder
4. Patients having venous circulatory insufficiency only received BEMER treatment

We performed our measurements on the ankles with a Précise 8001 TcpO₂-sphygmomanometer with the patients in a reposed position lying down. Patients with venous disorders were also tested with the VENOScreen diagnostic apparatus.

Results

With **the first group of claudicating patients** we initiated the treatments because their complaints worsened – the average value at the start was 25-28 Hgmm – after the BEMER treatment we measured a 28% improvement, which after oxygen treatment we recorded an oxygen tension increase of 59%.

In the case of **the second claudicating group** of patients with trophic disorder we measured 20-26 Hgmm as the lowest value, which after BEMER treatment showed a 32% improvement and after oxygen treatment resulted in an oxygen tension increase of 75%.

The initial value with **the third diabetic patient group** was 47-58 Hgmm, which with BEMER treatment grew by 11% and for BEMER+ ionized oxygen treatment grew by 25%.

The **patient group with venous circulatory insufficiency**, the treatments did not result in a substantial increase due to the significant valve insufficiency, in these cases a surgical resolution was required in these cases.

Conclusions

Chronic-critical limb ischemia – in line with literary data – can be defined as a measurement under 30 Hgmm base value.

For diabetic patients, the base values were significantly higher, but the trophic disorder was still a sign of the actual local circulatory insufficiency.

Beside the pre- and post-treatment examinations, the post-treatment values measured were also indicative of the **responder/non-responder status** – especially for those with venous disorders, where the poor or insufficient responses pointed to the necessity of a surgical intervention.

Efficiency could be improved further, given the fact that a modification of the therapeutic strategy may be considered for patients with an insufficient response.

Continuous **TcpO₂ measurement** during treatments is a simple and easily reproducible method for tracking treatments. Its use also highlighted that having it introduced to clinical practice could provide valuable assistance in **ensuring a more efficient therapy management**, which during critical clinical stages could also help save limbs from amputation.

Recovery from a severe bone disease after complementary BEMER therapy

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Osteochondritis is a severe bone condition of unknown aetiology and with a pathomechanism driven by neurogene and metabolic as well as circulatory factors. Its therapy inevitably includes polypragmasia.

We would like to present a 23-year-old young male patient whose medical history includes Perthes disease of the hip (at 14 years of age) and Crohn disease (at 19 years of age) treated with high-dose glucocorticoids and anti-TNF biology therapy.

He presented with bilateral knee pain in September 2015 when spondyloarthritis linked to the inflammatory bowel disease was suspected as cause. A pathognomonic MRI scan verified extensive, multifocal, bilateral knee osteochondritis with sporadic avascular necrosis. Conservative therapy was introduced including load-relieving with crutches, condition-based physiotherapy, NSAIDs, beta blockers, Detralex, a 1-year-old biphosphonate and vitamin D therapy, IV prostacyclin repeated 2 times and BEMER therapy administered 2 or 3 times a day in the form of a B.Body (mattress) base (3-4-5-6) and a B.PAD (scarf applicator) (P3+). Gradual regression was verified during control examinations performed every 6 months.

We would like to present the efficacy of BEMER physical vascular therapy in the treatment of severe local bone diseases.

A new treatment possibility in autism: BEMER therapy

Dr. Éva Csécei - psychiatrist, neurology consultant

Belváros-Lipótváros Medical Services

This presentation describes our experience with the 3-month-long BEMER therapy of patients living with autism spectrum disorder. Residents of the Home for Autists and Impaired ran by the Equal Chances Foundation, clients of the Lélekhely Association and patients of the BLESZ Neurology Outpatient Care and the Psychiatric Nursing Home of the 5th district were included in the program in Csömör.

Theoretical Framework

The results of intensive research targeted at mapping the nature of autism and more and more practical experience has led to the widespread scientific consensus that interprets **autism as a spectrum disorder**. Recent decades have shown that autism is a bafflingly varied condition in the diagnostics and treatment of which stereotypical approaches are far from effective although the basic considerations are the same. DSM-5 is a much newer classification system than ICD-10, therefore it reflects a more up-to-date knowledge of autism and a more modern approach. DSM-5 uses a uniformed diagnostic category called autism spectrum disorder without subgroups. In addition, it divides symptoms into two groups (instead the previously used three): (A) continuous and various impairment of social communication and social contacts and (B) limited, repeating behavioral patterns, interests and activities. Newer symptoms were given to the latter including increased or decreased sensory sensitivity, unusual sensory reactions and stereotypical speech.

While the frequency of autism was estimated at 2 to 5 ten thousandths, **newer epidemiology studies show a prevalence exceeds 1 percent**. During the last 50 years the number of cases per year has increased evenly by 3 to 4 percent and after introduction of DSM-5 further growth is estimated with a value exceeding 2 percent.

While causes of autism have been researched previously, nowadays more attention is given to various constellations of risk factors leading to autism. Autism is a biologically defined development disorder the formation of which lacks psychogenic factors. A complex polygenic inheritance is considered probable the factors and their possible combinations of which have not yet completely been mapped by research. Autism is one of the most genetically determined disorder among pediatric psychiatry/psychiatry conditions. Besides the factors increasing the risk protecting factors that decrease the risk are also studied.

Method

26 patients living with autism spectrum disorder diagnosed in their childhood were treated and studied. Patient average age was 31 years (from 19 to 59 years old) with 20 male and 6 female patients.

Examination results were recorded before and after 3-month-long BEMER therapies performed from January to September in 2017. BEMER treatment was administered 1 time a day.

Treatment protocol was determined individually based on autism severity, comorbidities and significant symptoms (psychiatric and gastroenterological comorbidity).

Most frequently used treatment protocol:

- L1 B.BODY (mattress) (no plus), base program level L3 to 6, L10 mattress
- P2 B.PAD abdomen, P1 B.PAD head

Examination results were recorded before and after 3-month-long BEMER therapies performed from January to September in 2017.

Basic and control examinations

Performed ATEC test is a widespread (available in Hungarian translation) questionnaire that completed by the parents or the treating personnel and used to estimate the severity of autism. Besides its good correlation with other examination results, ATEC test reveals information about the general health condition of the patient (sleeping and gastrointestinal symptoms).

Other examinations: Hamilton Anxiety Rating Scale (HARS), activity analysis, changes in fine motor movements, sleep diary analysis

ATEC tests were recorded before examination of objective symptoms and initiation of treatment and on Week 15.

Results

Treatment influence on various psychic symptoms like anxiety, mood instability, anger management problems, social activities and aggressive behaviour are described through analysis of the ATEC test.

3 areas of speech, language and communication levels showed positive changes with an overall minimal drop in score. 9 areas of social relations showed positive changes. 8 areas of perception, thinking and attention showed positive changes. 13 areas of health, physical state and behaviour showed positive changes.

Overall condition of the patients studied showed clear improvements after treatment based on the ATEC results. This ATEC test average presented as a drop from 124 points to 83 points or 33%.

Improvements in fine motor movements were recorded with photos (drawings, small objects made). Beneficial effects of the sleep diary filled in by the staff on the sleeping disorders were also supported by the ATEC questionnaire.

Improvements on general patient condition and mood and immune strengthening effects were recorded to various extent in all patients (e.g. lack of oral aphthae infections, wound healing and decrease in IBS symptoms).

One of the most important effects of BEMER treatment are more approachable and calmer patients showing better compliance during development and rehabilitation activities and who are more fit for social life.

Treatment of severe cardiovascular patients with physiotherapy and BEMER therapy

Ákos Ferenc Marcsik, Ágnes Huszti

Physiotherapist, DOTE

Objective

We have been using a third generation BEMER Professional therapy system at the DE KK Rheumatology Department since 2011 and our experiences so far have proven the efficacy and efficiency of the therapy for patients we encounter in our practice.

Patients and methods

We used status assessment scales - Barthel Index, VAS, FIM – at admittance to and discharge from the hospital to evaluate our results. Our patient observed was hospitalized between 09.04.2015. – 17.06.2015. at the internal medicine, the nephrology, the ICU and the cardiology wards of the Szabolcs-Szatmár-Bereg County and University Teaching Hospital. The patient had earlier received a mechanical valve implanted at the aorta position, was diagnosed with a permanent atrial fibrillation. The patient was tended to by a caretaker. The patient was also suffering from hypertension and Parkinson-disease. During the period of hospitalization, the patient required treatment because of cardiac decompensation, multiple cerebral lesions, COPD, recurring breathing insufficiency, thrombosis of the artificial valve, Clostridium D infection, MRSA and MACI positivity. It was because of a respiratory insufficiency developed as the consequence of a febrile infectious state that the patient was admitted to an ICU ward, where the patient stabilized and blood gas values returned to stable. The patient was admitted to the Cardiology Department for further treatment, where upon admittance symptoms of mild pulmonary and systemic decompensation were observed, along with a conscious status, blood gas values consistent with the COPD status. During treatment, further diuretic therapy resolved the decompensation symptoms. Intermittent administration of O₂ helped return blood gas values.

The patient had mild communication problems with aphasia, sometimes having problems comprehending the instructions. Exercise was actively assisted, the patient required assistance for movement in bed, was able to sit stable for short periods of time. Beside the drug therapy the patient also underwent cardiologic physiotherapy between 09.04.2015. – 17.06.2015.

The patient was discharged in a compensated cardiac and good overall status. The therapy suggested was gradual mobilization and 1 litre/minute O₂ administered for 1 hour every 4 hours, beside the continued drug treatment.

It was after the return of the patient home that we were asked to perform complex rehabilitation physiotherapy treatments. Rehabilitation of the patient was assisted active and active exercise, mobilization, a practice of the change of position and sitting, which we complemented with BEMER therapy.

Our therapeutic objective was to facilitate the return of the patient into normal everyday life. Our physiotherapeutic plan included muscle training, mobilization, exercises involving a change of position, exercises to improve circulation, thoracic physiotherapy, venous gymnastics, breathing exercises and walking. The BEMER therapy allowed us to provide for a cell- and tissue-level regeneration for our patient, with a view to catalysing the process of healing.

BEMER therapy applied

Individually tailored program package, 5 times a week for a daily duration of 40 minutes.

Results

The FIM-score went from 38 to 122, the Barthel Index from 25 to 95, whereas the VAS changed from 8 to 1 by the end of the rehabilitation period. By the end of the treatments, the bedridden patient, with a weak health status who could only live an assisted life is now able to live an unassisted life (eating, washing, dressing alone), capable of movement, driving a car and going for the control visits alone to the great astonishment of the treating physicians.

Summary

The BEMER Professional can be used with excellent results as an individual therapy in rehabilitation and can be a useful tool for physiotherapists and rehabilitation professionals.

The significance of BEMER in pulmonology practice

Dr. Eszter Bérdi

Chief pulmonologist

Kispest Medical Institute

During the course of BEMER therapy there is 29% more oxygen going from the blood into the tissues, this is how much less oxygen can be measured on the venous side. (based on research of Prof. Dr. R. Klopp).

Based on this, we supposed that the alveolar gas exchange of microvessels in the lungs can also be influenced positively.

In my presentation, I will show the change of oxygen level in the blood measured in an exact manner on pulmonary patients.

Polyneuropathies and BEMER therapy

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Polyneuropathies are considered to be the generalized illness of the peripheral nervous system. Its prevalence is around 2.4%, above 55 years, however, it can be as high as 8%. A systemic disease lies in the background in most cases. As a consequence, the term polyneuropathy must be considered a symptomatic diagnosis and a basic disease or cause must be searched for in every case.

Sometimes “positive” sensory disorders are accompanied by “negative” sensory disorders, with the latter being the leading symptom sometimes.

In this case sensory loss is found with symmetrical and distally increasing hypaesthesia in some or in all sensory qualities. Patients generally refer to this symptom as sensory loss or numbness. Trophic ulcers and slowly healing wounds may develop as a consequence of sensory loss. Further consequence of sensory loss is the gait disorder that correlates to sensory ataxia. Patients frequently refer to this as vertigo or instability that may derail the examination procedure. During examination hyporeflexia or areflexia is found in addition to sensory loss. Fasciculation is also a frequent symptom. Motor symptoms may also present in polyneuropathy in a similar fashion distally and symmetrically. Small foot muscles and crural muscles, later small muscles of the hand become atrophic and paretic. Bilaterally hanging feet is a typical, causing the patient to walk in a stepping fashion since he/she cannot stand on his/her heel or toes. This chronic, symmetrical, distal sensorimotor polyneuropathy with sensory dominance is the most frequent and most typical presenting form. Asymmetrical presentation may also appear in rare cases and when symptoms are limited to the area of one peripheral nerve it is called a multiple mononeuropathy. In this case the patient has more than one mononeuropathies that cannot be explained with local causes. Sometimes only sensory symptoms are present with motor symptoms not developing even in later stages. Other times motor symptoms and weakness are dominant. Sometimes subacute or acute progression is observed when symptoms develop in a few days or weeks, mainly in an ascending fashion. Weakness may spread to the intercostal muscles and the diaphragm as well as the bulbar and facial muscles.

Diseases most frequently causing polyneuropathy

Sensory: diabetes, uraemia, hypothyreosis, amyloidosis, paraneoplasia (tumor), paraproteinaemia, medications, HIV, Lyme-borreliosis, hereditary sensory and autonomic neuropathies (HSAN), vitamin B12 deficiency etc.

Motor: acute inflammatory demyelinating polyradiculoneuropathy (AIDP- Guillain-Barre syndrome (GBS)), chronic inflammatory demyelinating polyradiculoneuropathy (CIDP), porphyria, lead intoxication, hereditary motor neuropathy etc.

Mixed: diabetes, alcohol hypothyreosis, uraemia, hereditary motor and sensory neuropathy (HMSN type 1 and 2) and other hereditary neuropathies, acute inflammatory demyelinating polyradiculoneuropathy (AIDP- Guillain-Barre syndrome (GBS)), chronic inflammatory demyelinating polyradiculoneuropathy (CIDP), vasculitis, paraproteinaemia, paraneoplastic etc.

Examinations: neurological physical and calibrated tuning fork examination, blood, urine and imaging examinations, neurophysiological evaluations (ENG, EMG), liquor, nerve biopsy, bone marrow biopsy and white blood cell enzymes if necessary.

Polyneuropathia treatment: treating or eliminating the cause is the most important. It is important to know that demyelinating polyneuropathies may improve during treatment in a few weeks while in case of axonal neuropathies treatment effectiveness may only be measured after long months or even 1 or 2 years.

The cause of polyneuropathy remains unknown in a significant ratio of patients, therefore supportive therapy is very important! To show the necessity of this we would like to present the BEMER therapy experiences of a 13-year-old boy suffering from Guillain Barre syndrome and a 78-year-old male patient suffering from progressing mixed polyneuropathy

Due to its vasomotion stimulating effect and its unpaired impact on microcirculation BEMER therapy should be considered as soon as possible (during tests and examination)!

Treatment of Sudeck atrophy with physical micro-vessel therapy

Dr. Erika Simon
rheumatologists

Local osteoporosis, algodystrophy often develops in the case of protracted fixing, immobilization of broken limbs. If the treatment is not adequate, atrophy may develop, which may result in severe loss of function, reduced range of motion.

Objective: to improve local circulation and open micro-capillaries with a view to supporting the transport of inflammatory proteins, to stimulate the activity of osteoblast cells, thereby to stop osteoporosis.

Method: we used physiotherapy in every case because patients included in the study all had metal fixing, thus there was no possibility to use any other physiotherapy treatments. We performed a local intensive BEMER applicator (B-SPOT) treatment on 60% of those involved in the program.

Results: we have the statistics for 60 subjects, 31 of whom received BEMER treatment and 29 belonged to the control group.

Data measured:

- Wrist circumference
- Pain based on VAS (visual analogue scale)
- Range of joint movement upon first visit, then 4 and 8 weeks later compared to the control group.

Extent of improvement for the BEMER-group and the control group

	Average improvement in the BEMER group		Average improvement for those NOT using the BEMER therapy	
	4	8	4	8
	after the injury		after the injury	
Wrist circumference [cm]	-1,18	-1,60	-0,43	-1,31
V A S [%]	-28,4%	-54,8%	-12,1%	-36,6%
Wrist dorsal flexion [%]	23,1%	40,9%	10,8%	22,3%
Wrist palmar flexion [%]	21,8%	39,7%	10,5%	21,0%
Ulnar deviation [%]	22,7%	37,5%	10,2%	20,8%
Radial deviation [%]	26,2%	39,2%	10,5%	22,1%

Conclusion:

By virtue of its vasomotion effect the BEMER treatment significantly shortens the healing period of local osteoporosis, which often accompanies fractures, while also helps prevent the functional deterioration of the limb involved.

The advantages of BEMER for disease groups requiring a longer biological healing

Dr. Zoltán Némethi
Neurotraumatologist

Introduction

In my practice, I deal with diseases and injuries of the skull and the spine, the common characteristic of which is that in comparison with other organs and organ systems – by virtue of their genetically and biologically predestined characteristics – their healing requires a much longer period of time. Consequently, the quality of life during the healing process falls behind the norm for longer, the pains and symptoms may persist, the rehabilitation may be much longer.

Even the slightest injury of the central nervous system will take weeks to heal, the most benign form of vertebral fracture (A-1 according to AO) has a minimum immobilization time of 3 months, total recovery 6-12 months. If the disease, injury is also accompanied by neurological symptoms or complications, then the period of healing may increase manifold, often with persisting residual symptoms.

If everything is optimal – in the interest of the patient – even the completely symptom free patient should not be allowed back to their normal lifestyle, until the process of biological healing doesn't finish. All these can mean extended sick leave, recovery process with all their other aspects involved.

Neurosurgeons have been preoccupied by trying to shorten this for long decades. More precise surgical procedures, smaller incisions, minimally invasive procedures, tissue sparing operating techniques, microscope assisted and percutaneous intervention etc. are all attempts to reduce the duration of healing and the collateral losses, which often cause just as much problems as the core illness.

If all goes well then, we reach the stage where it is only tissue biology and naturally the initial status of the patient, which define the limits.

The subjective status of the patient, the shortened period of rehabilitation and healing in comparison with typical/general cases have proven the efficacy of the BEMER therapy in this field on many occasions so far.

Based on the initial status it has been possible to achieve clinical improvement within a much shorter time than expected in cases like severe head injuries, cervical disc herniation causing an injury of the spinal cord, protracted pain syndromes, spinal fractures of children, single or multiple vertebral fractures requiring or not requiring surgery etc. Quality of life regained earlier, months of time "spared" was a huge help for the patients and their families alike.

The next target was to objectively define the extent to which BEMER treatment started in the early rehabilitation phase could help the body in the healing processes, ossification, regeneration of the operative sites and in eliminating phenomena having the potential of causing pain.

I planned to use objective imaging tests to substantiate the impact of the treatments. The trends were easy to follow, but they barely stood up to scientific and statistical scrutiny, because we

encountered the fact proven on so many occasions and in so many ways, that there is no such thing as a linear correlation or numerical correlation between the complaints of the patient, the extent of healing, the abilities of the patient and the radiological picture.

Finally, the decision was made to have a multilevel assessment of the quality of life, with a targeted professional questionnaire for each healing cycle, to which end a homogenous patient group was established.

Patients and methods

Thoracolumbar spinal injury patients became the chosen group, within this the AO:A3 group, which is the incomplete or complete burst fractures, which can be treated with or without surgery (many borderline cases). This type of fracture is frequent enough, but contrary to the A1 it does not heal automatically. Both the conservative and the surgical treatment were performed with the same methods, surgical technique and instructions for convalescence at home.

235 patients from a recently finished analysis of about 1300 cases were included in the study. In that analysis, it was discovered that when well selected, both forms of treatment will heal with roughly the same clinical outcome, however the radiological healing doesn't correlate here either. It was also found that when the chances for healing are absolutely identical, then the surgical method seems to be more patient friendly.

Patients included earlier were still available, they were given the questionnaires and turned up for the control visits. There was at least six months of follow-up (radiological and clinical) available. We managed to include 20 of the patients using the BEMER therapy in this group. The treatment schemes were similar apart from the BEMER device.

A total of 40 questionnaires were returned. 25 did not receive BEMER therapy, 15 patients used it for at least 6-8 weeks.

The original questionnaire was compiled by orthopaedic surgeons from Boston, with a view to following the everyday lives of their patients in the post-operative phase. This was deemed to be perfectly suitable for assessing the quality of life. 10 sets of questions. 6 choices. The first 3 options refer to a good quality of life, the second 3 to a less than good one. The larger the score, the more the complaints.

Results

The differences were between 2 and 60%. The smallest difference in the 6-monthly figures was in the field of self-dependency (2%). The largest difference in the 3-monthly figures was in the ability to walk (60%). In the majority of the issues the difference was a maximum of around 10% after half a year.

We recorded 20-30% difference in pain intensity 6 weeks post-operative/injury (30%), on the issue of walking at 6 weeks (26%), rest and sleep on the 6th week (21%) – this went up to 37% by the third month. Three months on the topic of leaving/travelling from home was 33%. Sitting, lifting heavier objects, extended standing improved the slowest in both groups (7-13% on average).

Conclusion

Every parameter improved without exception from cycle to cycle (6 weeks – 3 months – 6 months). This is normal.

However the initial ratios and the pace of improvement in the BEMER groups, was almost always better, In the case of the chosen diagnosis (AO:A3 incomplete burst fracture) complaints and symptoms, life quality levelled out after 6 months or after that. This is to say that BEMER made the first half year easier, rehabilitation treatments could start earlier, return to work could happen earlier. There was no significant difference between operated patients operated and not operated in the BEMER or the control group in terms of improvement. Return to the earlier life style became possible much earlier in the BEMER group. By the end of the six-month healing cycle 14 of the 15 BEMER patients returned to work.

What is the advantage of waiting 1 or 2 months for the MRI scan?

General practice

Dr. Ildikó Frányó

General practitioner

A large ratio of patients presenting in the general practitioner's office have some kind of acute or chronic musculoskeletal disorders. Spine-related pain can be found in younger as well as in older ages. Disc aging, disc dehydration, loss of flexibility and its protective capabilities against outer impacts progresses over time. Degeneration render the disc vulnerable against outer impacts, therefore sudden physical impact may damage or disrupt the circular rings which makes the inner jelly-like material protrude into the spinal canal and result in pressure symptoms on exiting nerves. This impact may be a bad movement such as lateral shift of the spine that increase shearing forces, degeneration due to increased disc pressure caused by obesity or hard physical work or as a result of sport activity etc. Protrusion, rupture and herniation of discs may cause acute neurological symptoms that most frequently includes: acute, sharp "lightning" like pain radiating to the lower extremity on the same side sometimes accompanied by extremity numbness or more rarely lack of foot movement and muscle weakness on the painful side, occasionally stooling and urination disorders. The patient may present with antalgic posture that is the posture least painful for them. Pain and other symptoms may develop slowly, chronic and in a gradually worsening form. The clinical picture is sometimes complicated with other wear and joint degeneration signs, spondylarthritis as well as other symptoms.

I use BEMER treatment as a supplemental therapy after thorough physical examination and neurosurgical or neurological consultation. In my outpatient office, I start BEMER therapy after referring the patient to MRI scan to supplement spinal load-relieving and medication therapy. Sometimes during consultation my patients are scheduled for operation, while in other cases surgical treatment is not indicated due to age, other chronic diseases or spinal lesions. MRI scans have a 1 or 2 month or occasionally longer waiting time. BEMER therapy is beneficial in disc diseases as well as in degenerative disorders of vertebral small joints. It is recommended to start BEMER therapy as soon as possible because based on my 10 years of experience it results in therapeutic success without side effects and effectively and quickly decreases pain and increases the patient's physical and mental load-bearing capabilities to the satisfaction of the patient and certainly the medical staff. In more severe cases it may take 3 to 5 days before the patient feels the improvements. Treatment should be continued for several weeks in order to improve the patient's quality of life to a level fit for work without surgery. A few case studies to support this theory:

A. R. is 82-year-old male patient who presented with chronic lower back and crural pain. Due to the pain, he needs help and a car to access the outpatient office. MRI scan revealed disc protrusion between the 3rd and 5th lumbar vertebrae, severe spondylarthritis. The degenerative lesions at the level of the 4th and 5th lumbar vertebrae impact both the exiting nerves and the nerve roots. He has been receiving medication therapy for polyneuropathy for years. The neurosurgeon recommended conservative therapy. His pains and foot numbness greatly eased after BEMER therapy. He arrives to the outpatient office and therapy on foot.

A. G. is a 64-year-old female patient who could not straighten up after pulling on a weed. She talks about unbearable pains. MRI scans have shown L.III. vertebrae with a 4 mm-wide disc protrusion on the left with a medio-lateral emphasis with about 3mm torn on the dorsal and medial side, significantly compressing the spinal canal. The 4th lumbar disc protrudes from the gap dorsally in a circular form mainly on the left. Opinion: ruptured herniation at the described level. After conservative treatment and BEMER therapy the patient became free of complaints.

J. K. is a 70-year-old male patient who presented with chronic spinal and lower extremity pain. CAT scan of the lumbar spine showed extensive spondylosis and spondyloarthritis and retrolisthesis of the lumbar 4th vertebra, Ventrolisthesis of the lumbar 5th vertebra and Disc protrusions between the 2nd and the 5th vertebra. Suspected compression of the 1st sacral root on the left, stenosis of the spinal canal between the 2nd and 3rd lumbar and between the 3rd and the 4th level. Thanks to the medication and the BEMER therapy he is able to do physical activity on his own farm. He is almost free of complaints at present.

A. S. is a 22-year-old female patient who presented with recurring sacral pains on the left. MRI scan of the lumbar spine: the lumbar 4th disc is somewhat low in signal, protrudes circularly and its moderate peripheral protrusions narrow the foramina. BEMER supplemental therapy significantly eased her complaints.

BEMER therapy in wound healing - from crural ulcers to cosmetic interventions

Dr. Ilona Horváth

dermatologist specialist

We have been using BEMER therapy in our internal medicine outpatient office for more than 10 years to promote healing of acute and chronic wounds of various etiology.

Most of our patients have crural ulcers due to chronic venous insufficiency or combined circulatory disorder and have been desperately searching for an effective treatment for their wounds not healing for months or years.

Another very important patient group consists of patients having gangrenous wounds as a late consequence of diabetic complex metabolic disorder. A common characteristic in both cases is that severe circulatory and metabolic disorder of the affected region is in the background, therefore the key element of healing is the possible optimization of these processes.

The severity of this problem must be highlighted until the number of non-traumatic extremity amputations in the country lies around 5 or 6 thousand per year.

Every therapy (in accordance with evidence based medicine) should be applied that might be effective in this patient group's global crucial problem.

I picked the case presentations from 10 years of treatment.

I will present our oldest patient with a "classic polymorbid" diabetic crural ulcer whose BEMER therapy was initiated 9 years ago in a condition ready for amputation. After 9 difficult years, the 79-year-old patient is still free from ulcers and lives his life on both feet.

Learning from the mentioned case we are not afraid to use BEMER therapy in the starting stage of diabetic gangrenae. My second case presentation is about a patient treated this way.

In our private office those presenting with wounds from more and more frequent laser surgeries form a new patient group. Since these interventions are frequently done on the face, accelerating wound healing decreases the duration of the patient's sick leave. In our experience healing time can be decreased with as much as one-third with BEMER therapy. As an example, for the above I will present a wound healing after laser removal of a malignant skin tumor and the quick recovery of a child from a traumatic face injury.

My experience in the last 10 years reinforces me that the BEMER system has to be considered as a supplemental therapy in the complex treatment of both the chronic and the acute wounds. The BEMER physical therapy is fit for home treatment as well and its effect becomes permanent only if applied continuously. It is an efficient therapy without pain and side effects. It should therefore be considered for support by social insurance as a medical aid for home use.

Using the BEMER therapy in oral surgery - new options in the treatment of the osteonecrosis of the jaw caused by bisphosphonates

Dr. Krisztina Cséplő

Military Hospital, Oral Surgery Ambulance

A hardly treatable and commonly therapy-resistant defect in the oral cavity membrane is the osteonecrosis of the jaw caused by medicines containing bisphosphonates (ONJ). The pathomechanisms of this disease, known since 2003, is still not charted in detail and several factors may be involved. Bisphosphonate therapy is widely used in patients with bone metastases from a primary tumor, osteoporosis, myeloma multiplex, or other diseases with loss of bone. Medicines may be intravenous or tablets. In patients with myeloma multiplex and tumor metastasis, intravenous medicine is part of the treatment protocol. Osteonecrosis of the jaw is observed in patients who received long-term oral or intravenous bisphosphonate therapy, and afterwards they suffered some bone trauma in the oral cavity, or underwent a dental intervention or eventually oral surgery.

One of the leading symptoms of the bisphosphonate-induced osteonecrosis of the jaw is the development of a defect of the mucous membrane, the exposed jaw bone and the necrosis of the jaw bone. After dental interventions, the disease starts to develop at the place of the tooth extraction with a small and painless wound of the mucous membrane.

The exposed bone (without epithelium) may be a further source of infection that can lead to the extension of the necrosis. Thus, with the progression of the disease, osteonecrosis may affect an increasing area of the jaw. At this stage, symptoms may include pain, swelling of the face, purulent fistula and pathological fracture. In early stages of the disease, conservative treatment with antibiotics is recommended based on the recommendations and classification of the American Association of Oral and Maxillofacial Surgeons

(AAOMS); however, in more advanced stages surgery is unavoidable. After removing the bone sequester or sometimes a larger portion of the necrotic jaw bone, slower healing of the mucous membrane, wound breakdown or dehiscence during healing may frequently occur, eventually associated with a relapse of bone necrosis.

The disease is likely to develop as a result of the fact that the jaw bones are separated from the environment by a very thin mucosa (unlike the other bones in the body) and that the oral cavity, by default, contains a large volume of diverse bacteria. Any intervention affecting the mucous membrane may directly injure the bone, and therefore the protection of the jaw against bacteria becomes an important task. Bisphosphonates remain in the bone for 5 to 10 years, and although they aim at strengthening the bones (with great success) by inhibiting the functioning of the osteoclasts, they interfere with the dynamics of the bones and make them more prone to infections.

BEMER therapy is successfully used in several medical areas in the treatment of chronic inflammation. Its mechanism is based on enhancing the vasomotion which improves microcirculation which consequently also leads to an improvement in the artery metabolism. One of the characteristics of necrotic tissues is that the blood flow is stopped. It is well known that microcirculation is of key importance in wound healing as well. Healing of a tissue with impaired blood supply is very doubtful, often completely hopeless. It was proposed that if the necrotic bone is surgically removed, post-operative magnetic resonance therapy may play a role in the prevention of the recurrence of jaw osteonecrosis by improving the blood circulation in the remaining healthy

bone. Improper healing of the mucous membrane observed in the osteonecrosis of the jaw (ONJ) is likely to improve as a result of the microcirculation enhancing effect of BEMER therapy.

The efficacy of BEMER therapy was studied after surgical interventions due to bisphosphonate-induced ONJ showing a very poor healing tendency and in patients with ONJ and mucosa defect to be treated with conservative therapy based on the relevant recommendations. Our study showed that BEMER therapy may be efficiently used during post-operative recovery to improve healing and to prevent relapse of the bone necrosis. Further studies are ongoing in initial stage, that is, in patients who do not yet require surgical care, assuming that BEMER therapy may also be useful in their case in the reduction of the progression of the disease.