Case Report

Application of Matrix Rhythm Therapy (MaRyThe©) for the Treatment of Decubitus Ulcer in Cancer

Varsha Huddar, Renu Pattanshetty

Department of Oncology Physiotherapy, KAHER Institute of Physiotherapy, Belagavi, Karnataka, India

Abstract

There are many physiotherapy treatment options available to treat decubitus ulcer in normal individuals. However, for cancer patients, no useful modality has been proved beneficial to treat the same. Matrix Rhythm Therapy (MaRyThe©) is a new therapeutic approach, with minimum or no side effects, that has demonstrated to restore the good tissue resonance and proved relatively safe to be used in cancer patients for pain relief. This case report presents a 65-year-old female suffering from rectal cancer, who underwent low anterior resection procedure, with complaints of difficulty to walk and a large bed sore on a sacral area. Twelve sessions of MaRyThe© demonstrated a significant improvement in terms of reduction in pain and decubitus ulcer size and improved ambulation.

Keywords: Cancer, decubitus ulcer, matrix rhythm therapy, pain

Address for correspondence: Dr. Varsha Huddar, Department of Oncology Physiotherapy, KAHER Institute of Physiotherapy, Nehru Nagar, Belagavi, Karnataka, India.
E-mail: drvarshabadli@gmail.com

INTRODUCTION

Decubitus ulcer is a tissue injury caused by constant pressure and friction at weight-bearing areas in the body. This may be due to reduced blood circulation to particular weight-bearing area.[1] Dry skin with decreased blood circulation is more susceptible for increased skin injury. It makes things worse when a cancer patient is suffering with decubitus ulcer, resulting in delayed or nonhealing ulcer.[2] Many physiotherapy treatment options in cancer treatment are red flags, suggesting metastasis due to increased cellular activity.[3] Matrix Rhythm Therapy (MaRyThe©) is a new approach that uses the concept of micromassage in various medical conditions along with exercises. It works at cellular level by enhancing blood supply which aids in wound healing and inducing relaxation.[4,5] Any disturbance such as injury, inflammation, or edema to tissue is said to interrupt the normal tissue rhythm which may cause further loss of function, pain, and reduced oxygen at the injured site. This reduced oxygen in the cell is said to hamper the energy production by the mitochondria.[6] MaRyThe© is said to restore the good tissue resonance. We found no literature suggesting the use of MaRyThe© in treatment of decubitus ulcer in patients suffering from cancer. Using this principle of enhance healing with MaRyThe©, the present case report investigated if MaRyThe© could help reduce the size of decubitus ulcer, thereby decreasing pain.

Access this article online	
Quick Response Code:	Website: www.ijptr.org
	DOI: 10.4103/ijptr.ijptr_34_20

Received: 12-09-2020, **Revised:** 17-04-2021,
Accepted: 27-05-2021, **Web Published:** 31-07-2021

How to cite this article: Huddar V, Pattanshetty R. Application of matrix rhythm therapy (MaRyThe©) for the treatment of decubitus ulcer in cancer. Indian J Phys Ther Res 2021;3:56-9.

CASE REPORT

A 65-year-old female, who presented with complaints of pain from ulcer and difficulty to ambulate, was referred for physiotherapy rehabilitation on an inpatient basis. She gave a history of rectum carcinoma (CA) with clinical staging T3N1M0. She underwent low anterior resection surgery followed by ten fractions of radiation therapy for the same. No family history of cancer was reported. She gave a past history of wedge compression fracture of T12 vertebra with disc bulge and nerve compression at multiple levels from T11-L1 disc with rod fixation with pedicle screw at T11-L1 level, for which she was advised bed rest. The patient had a history of lower limb weakness, with added health burden postsurgery and radiation for CA rectum rendering her immobile for many days which lead to decubitus ulcer. The patient gave a history of immobility for 4 months post her spinal surgery. She was referred to oncology physiotherapy during her stay in hospital for decubitus ulcer treatment and for Informed consent was obtained from the subject to participate in the present case study and to publish the findings with the hidden identity.

Physiotherapy evaluations were done taking patients consent and revealed restricted movements in lower limbs, difficulty in getting up from the bed, standing and walking without support, and muscle weakness. Pain assessment was done using the visual analog scale (VAS) with scoring 8/10. Pain aggravated with activities such as turning and getting up from bed which was mainly in sacral area. Pain was burning and pricking in nature, relieved with rest and medications. On examination, she had Grade 3 decubitus ulcer [Figure 1] at sacral area, which measured 5 cm × 5 cm × 4 cm depth (using cotton tip and ruler method)[7] with punched out edge, pink granular base and with patchy yellowish discoloration, suggesting nonhealing ulcer of infectious type. The Functional Independence Measure (FIM) score was 73/126, suggesting an assistance required for her daily activities, the Functional Assessment of Cancer Therapy-General (FACT-G) score was 51.6/108, suggesting a reduced quality of life (QOL), and Pressure Ulcer Scale for Healing (PUSH) score was of 11/17 suggesting a severity of decubitus ulcer. Respiratory assessment revealed the use of accessory respiratory muscles and dull note on the right on the upper, middle, and lower lung fields on percussion with crepitus heard over the lower lung fields on auscultation.

The patient's hospitalization phase lasted for 15 days. She was given MaRyThe© for decubitus ulcer on alternate days and exercises that included general mobility exercises, strength training for lower limbs, balance training, and hourly positional change on a regular basis. MaRyThe© was given with subject lying down in a side lying position on the treatment couch, and the therapist was standing at the side of bed facing pressure ulcer. The area to be treated was healthy (around the decubitus ulcer) that was well exposed, and powder was applied around the ulcer to prevent friction caused by the probe. Longitudinal strokes of MaRyThe© were applied into the soft tissue around the decubitus ulcer. A total of 12 MaRyThe© sessions were given lasting for 60–75 min.

Outcome measures

Pre and post treatment outcome measures were noted in terms of PUSH,[8] VAS for pain, FIM Scale (FIMS) for functional assessment, and QOL by FACT-G.[9]

RESULTS

Results showed a significant improvement in terms of decreased VAS score from 8 to 2 posttreatment and

Figure 1: PreMaRyThe treatment decubitus ulcer (1)

Figure 2: Post 12 sessions of MaRyThe showing much healed ulcer

Table 1: Values of pre- and post-outcome measures following matrix therapy

Variables	Outcome measures	
	Pretreatment	Posttreatment
PUSH score	11/17	5/17
VAS score	8	2
FIMS score	73/126	95/126
Pressure ulcer size (height width and depth) (cm)	5×5 × 4	1.5×2 × 2
FACT-G (quality of life)		
Physical well-being	7/28	16/28
Social/family well-being	8.4/28	8.4/28
Emotional well-being	11/24	16/24
Functional well-being	25.2/28	14/28
Total	51.6/108	54.4/108

PUSH: Pressure Ulcer Scale for Healing, VAS: Visual Analog Scale, FIMS: Functional Independence Measure Scale, FACT-G: Functional Assessment of Cancer Therapy-General

PUSH scores from 11 to 5 posttreatment. Decubitus ulcer size from 5 cm × 5 cm × 4 cm pretreatment was reduced to 1.5 cm × 2 cm × 2 cm [Figure 2]. A significant improvement was seen in FIMS and FACT-G,[9] with FIMS score improved from 73/123 to 95/123 and FACT-G improved from 51.6/108 to 54.4/108 postintervention, physical well-being component of FACT-G showed a better improvement as compared to other components [Table 1]. All outcome variables showed clinically significant results.

DISCUSSION

The main objective of this case report was to check if MaRyThe© could enhance healing in cancer patient with decubitus ulcer. The results showed a clinically significant improvement in terms of reduction in pain, size of decubitus ulcer, improvement in QOL, and functional activity. A study suggested that MaRyThe© could change and help in removal of metabolic waste products at cellular level, thereby helping in increasing micro blood circulation in the tissues. The healing effect may be explained by the presence of a magnet in the vibrator head[4] that may be a possible explanation to the healing process in the present case. Magnetic field has shown to improve blood circulation and reducing pain in connective tissue and muscles, thereby aiding relaxation, transfer of nutrition, removal of metabolites, and oxygen transport.[10]

Application of MaRyThe© in chronic dysfunction like deep foot ulcer has shown to enhance healing and reducing pain.[11] The effectiveness of MaRyThe© may have a greater influence in normalizing the tissue function that may aid the injured tissues to regain the normal functioning.[6] This explanation may aid in understanding the healing process in the present case scenario too. The therapy has shown to allow the cell metabolism of the tissue to be reactivated with depth-effective rhythmical micro-extensions and the contracted areas of the musculature that may be inductively relaxed, causing reduction in edema and improving extensibility of soft tissues and enhanced healing.[4]

CONCLUSION

The present case suggests MaRyThe© as an important physical therapy option in the treatment of decubitus ulcer in cancer patients, highlighting the reduction in ulcer size and decreasing pain, thereby improving QOL and functional independence. Case series studies or a small clinical trial would enhance the clinical significance and MaRyThe© role in the treatment of cancer survivors with decubitus ulcer.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Bluestein D, Javaheri A. Pressure ulcers: Prevention, evaluation, and management. Am Fam Physician 2008;78:1186-94.
2. Allman RM, Goode PS, Patrick MM, Burst N, Bartolucci AA. Pressure ulcer risk factors among hospitalized patients with activity limitation. JAMA 1995;273:865-70.
3. Suvarna G, Agarwal M, Harishchandre M. Combined effect of ultrasound and laser therpy (LLT) for the treatment of pressure ulcerin a patient with spinal cord injury. Physiother Rehabil 2016;1:114.
4. Naik V, Bhagwat S, Pathania T, Bootwala F. Effectiveness of matrix rhythm therapy in frozen shoulder with respect to ROM and pain-An experimental study. IJAR 2018;4:73-6.
5. Randoll U. Matrix rhythm therapy curing pain and illnesses with alpha vibrations. In: Eichelbeck R, editor. Matrix-Rhythm Therapy, Geltinger Str. 14 ed., Germany: Ehlers Verlag; 2014. p. 1-7.
6. Shrivastava S. Matrix rhythm therapy: A new dimension in pain management and restricted mobility-"birth injuries". Int J Adv Res Sci Eng 2015;4:113-8.
7. Bryant RA, Nix DP. Acute and Chronic Wounds: Current Management Concepts. 4th edition, Mosby USA; 2012. p. 4.
8. Zeigler M, Smiley J, Ehrlich-Jones L, Moore JL. Use of the pressure

ulcer scale for healing (PUSH) in inpatient rehabilitation: A case example. Rehabil Nurs 2016;41:207-10.
9. Weitzner MA, Meyers CA, Gelke CK, Byrne KS, Cella DF, Levin VA. The functional assessment of cancer therapy (FACT) scale. Development of a brain subscale and revalidation of the general version (FACT-G) in patients with primary brain tumors. Cancer 1995;75:1151-61.
10. Taspinar F, Aslan UB, Sabir N, Cavlak U. Implementation of matrix rhythm therapy and conventional massage in young females and comparison of their acute effects on circulation. J Altern Complement Med 2013;19:826-32.
11. Bhatikar K. Effect of matrix rhythm therapy on chronic vein dysfunction deep foot ulcer: A case report. J Yoga Phys 2018;6:555696. DOI: 10.19080/JYP.2018.06.555696