



Effectiveness of two different bandages for upper limb compression in breast cancer-related lymphedema treatment: Preliminary results

G. Luppi, M. Maselli, S. Miccinilli, M. Bravi, F. Bressi, S. Sterzi
 UOC di Medicina Fisica e Riabilitazione, Università Campus Bio-Medico di Roma

Introduction

Post-surgery lymphedema in breast cancer is a chronic disorder that negatively impact Quality of Life (QoL), concerning physical functional and psychological aspects. Treatment of lymphedema seeks to decrease/control the limb volume.



This study aims to evaluate the effectiveness of two different bandages for limb compression associated to manual lymph drainage (MLD).

Materials and Methods

Sixteen patients with lymphedema were randomized in two groups: experimental (EG) and control group (CG). All patients underwent a procedure of MLD (8 daily sessions). The CG received a standard low-tension multilayer bandage (LTMB), whereas the EG was treated with Mobiderm®.

	CG	EG
Patients nr	8	8
Mean age	56,13 years	59,63 years
Surgical treatment (nr patients)	Mastectomy (5) - Quadrantectomy (3)	Mastectomy (5) - Quadrantectomy (3)
Treatment: 8 daily session	MLD + standard LTMB	MLD + LTMB with Mobiderm®
Required arterial for banding	→Rosidal K: 1 bandage (6cm h), 1 bandage (8cm h) 1 bandage (10cm h) →Cotton bandage (8cmX5m) →Rosidal Soft: (10cmX0,3 mm) →Mollelast: 6 bandages (4cmX4m) →Cotton (10cmX10m)	→Cotton bandage short stretch: (11cmX4m) →Flexideal (8cm X5m) →Benda Biflex 16+ medium stretch (8cmX4m) →Benda Mobiderm®

A blind clinical evaluation was performed before (T0) and after treatment (T1), and at one month follow-up (T2).

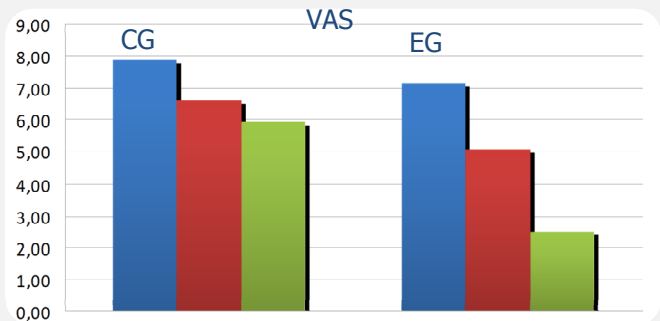
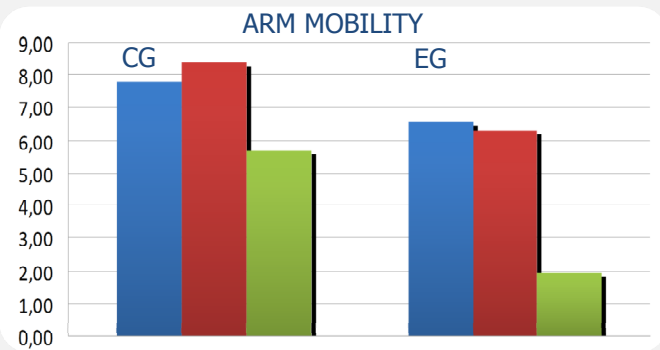


Clinical evaluation was performed through:

- Arm volume measure ($V_{limb} = \Sigma \pi(x/2n)2h$)
- VAS scale
- Lymphedema Functioning, Disability and Health Questionnaire (Lymph-ICF)

Results

Both groups exhibited decreased arm volume, VAS and Lymph-ICF scores both at T1 and at T2 with respect to T0. Arm volume decreased at T2 respect to T1 in EG only [Fig.1]. Arm mobility decreased at T1, yet both groups showed a significant enhancement comparing T2 to T0.



Conclusions

Both groups exhibited an improvement of QoL, assessing the effectiveness of LTMB associated to MLD. Mobiderm® bandage showed a higher effectiveness, enabling better limb mobility. ADLs during treatment were affected in both groups, due to a greater hindrance of the bandage. These positive preliminary results demand to extend the investigation also at long-term periods, due to the chronic nature of the condition.

References

- Heiney SP, McWayne J, Cunningham JE, Hazlett LJ, Parrish RS, Bryant LH, et al. Quality of life and lymphedema following breast cancer. *Lymphology*. 2007;40(4):177-84.
- Partsh H. Clinical trials needed to evaluate compression therapy in breast cancer related lymphedema (BCRL). Proposals from an expert group. *Int Angiol*. 2010 Oct;29(5):442-53.
- KorpenMI, Crevenne R, Fialka-Maser V: Lymphedema: a Therapeutic approach in the treatment and rehabilitation of cancer patients. *Am. J Phys Med Rehabil* 2011, 90(suppl): S69-S75
- Damstra RJ, Partsch H Compression therapy in breast cancer-related lymphedema: A randomized, controlled comparative study of relation between volume and interface pressure changes. *J Vasc Surgery* 2009 May;49(5):1256-63
- Gjorup C, Zerahn B, Hendel HW Assessment of volume measurement of breast cancer-related lymphedema by three methods: circumference measurement, water displacement, and dual energy X-ray absorptiometry. *Lymphat Res Biol*. 2010 Jun;8(2):111-9.
- Foroughi N, Dylke ES, Paterson RD, Sparrow KA, Fan J, Warwick EB, Kilbreath SL Inter-rater reliability of arm circumference measurement. *Lymphat Res Biol*. 2011;9(2):101-7
- Vignes S, Porcher R, Arrault M, Dupuy A. Long-term management of breast cancer-related lymphedema after intensive decongestive physiotherapy. *Breast Cancer Res Treat* 2007;101(3):285-90. Epub 2006 Jul 7.