APPROPRIATENESS OF A PHYSIOTHERAPIC TREATMENT PROTOCOL FOR THE AXILLARY WEB SYNDROME, APPLIED IN A TERRITORIAL REHABILITATION SERVICE

Description of a clinical case

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ABSTRACT

The “Axillary web syndrome” (AWS) is an early complication following breast cancer surgery with axillary lymph nodes dissection.

To apply an appropriated physiotherapeutic protocol to deal with patients having AWS who show up in territorial rehabilitation service.

The enrolled patient underwent quadrantectomy and right axillary lymphadenectomy surgery resulting in painful shoulder, functional limitation and a clinical picture that gave evidence for AWS, and for this she was addressed to the territorial rehabilitation service.

The rehabilitation treatment carried out was composed of active and passive mobilization of the upper-right limb of the cervico-dorsal segment together with self-mobilization exercises (MAPEA), that lasted two months with a three-month follow-up.

The outcomes of reference were the numerical rating scale (N.R.S), the Constant-Murley Scale (C.M.S.) and the EuroQoL questionnaire (EQ-5D).

After two months of treatment, the results show an improvement in both functionality and pain in the upper limb and in the patient's quality of life, in particular: 43% on the N.R.S scale, 59% on the C.M.S. scale and 81% on the EQ-5D questionnaire.

After three-month follow-up, the improvement was 75% in the N.R.S, 27% in the C.M.S. and 23% in the EQ-5D.

The description of the clinical case afflicted with AWS and the treatment protocol applied, highlighted the good performance of the results, notably as concerns patient's quality of life. This result could represent a starting point for creating clinical trials aimed at building appropriate rehabilitation courses in territorial rehabilitation services.

INTRODUCTION

Breast neoplasm is the most common form of cancer among women. Currently in Italy over 37,000 new cases are diagnosed per year (1), (2) 25% of which women below 50 years of age (3).

Axillary surgical procedures have reported, along with post-operative morbidity of bleeding, infections, presence of lymphedema and shoulder pain, also the axillary fibrous banding syndrome, better known as axillary web syndrome (AWS), that normally appears between the first and the fifth week after surgery (5),(6) diagnosed on 28.86% of women (7),(8), its manifestation is mainly at the level of ipsilateral axillary region at surgical dissection, but it can also extend towards the elbow, throughout the antecubital space and, in the most serious cases, up to the column of the thumb (9),(10), causing upper limb functional deficits (11).

The purpose of the description of this clinical case is to create an appropriate physiotherapeutic protocol to deal with patients having AWS in a rehabilitation ser-

vice, through an active and passive manual therapy of the upper limb and cervico-dorsal segment (MAP) together with self-mobilization exercises to do at home (EA), both established the MAPEA protocol.

METHODOLOGY AND MATERIALS

1. Case report

The patient is a 69-year-old woman, retired ex-employee, with surgical outcome of right quadrantectomy and right axillary lymphadenectomy because of sentinel lymph node's positivity.

The anamnesis furthermore presents a picture of a pharmacologically controlled hypertension, digestive disorders and a clinical history following a surgery done 20 years ago for cholecystectomy. The patient is addressed to the territorial rehabilitation service because of her right shoulder pain, specifically in axillary area and the scapula, limiting most of the normal activities of daily life with the presence of lymphatic vessels' fibrosis at the brachioradial level, which pleads in favour of an AWS picture, further confirmed

OUTCOME	Data Collection				
	T0	T1	Follow-Up	Variation T0-T1	Variation T1 - Follow Up
N.R.S.	7	4	1	43%	75%
Costant Murley	24	58	79	59%	27%
EQ-5D	0,124	0,656	0,848	81%	23%

Key: N.R.S.: Numerical Rating Scale, EQ-5D: Euroqol

Tab. 1 - Data collection outcomes.

from the STAWS questionnaire v.2.1 (12).

During the objective examination, the patient has a functional limitation with an active movement preserved up to 80° of abduction and 130° of elevation with the presence of pain in the last degrees of the movement. The cervical spine has been evaluated and excluded as a factor contributing scapula pain.

Cervical mobility was painless and normal on all its planes of movement as well as the cervical radiculopathy identified through upper quadrant tests (13) was absent, the movement and the strength of the right elbow were normally conserved and pain-free.

Hypomobility from the fourth vertebra (D4) to the seventh vertebra (D7) was present at the antero-posterior vertebral dorsal segmental test of mobility (14).

2. Treatment timeline

Taking charge of MAPEA treatment in the territorial rehabilitation service lasted two months, where the patient underwent the MAP protocol administrated in two biweekly sessions lasting 45 minutes, with the addition of EA protocol to be carried out twice a day for the duration of 20 minutes for the entire duration of MAP protocol and pending the follow-up done three months after the last treatment session.

3. Therapeutic interventions

The MAP treatment consisted into passive and active mobilization of gleno-humeral in supine position until reaching the pain limit in all its planes, passive stretching activities of the antero-internal myofascial chain of the upper limb combined with breathing, passive mobilization of the scapula with the patient in lateral decubitus, transversal mobilization of soft tissues, around the scar along the direction of the minor mobility, in line with the subcutaneous plane in the

absence both of pain and unpleasant reactions from the patient, as burning and itching.

Once carried out the work at upper limb level, II and III degree Maitland mobilization (15) of the cervico-dorsal segment was effectuated. The EA protocol provided for a four exercises of self-mobilization to practise at home (Appendix A), after the patient had been trained by the physiotherapist at the end of the first session of the first MAP treatment.

4. Outcomes

The Outcomes examined are the pain assessment through the numerical rating scale (N.R.S), at 10 points; the Constant-Murley scale (C.M.S.), which defines the level of pain and the ability to perform the normal daily activities of the patient (18); the EuroqoL (EQ-5D) questionnaire, standardized tool that allows to measure the interviewees health status and their quality of life, on the basis of which it is possible to evaluate the health care provided. (19). The outcome tools were administrated before the start of treatment (T0), at the end of the last treatment session (T1) and at follow-up.

RESULTS AND DISCUSSION

The patient collaborated for the entire duration of the work protocol both in time dedicated to evaluation and MAPEA treatment.

The collected data were analysed and reported in the table n. 1: in the particular case, we have verified that between T0 and T1 there was an improvement in percentage of 43% on the N.R.S scale, of 59% in C.M.S. scale and of 81% on EQ-5D questionnaire, while at the follow-up phase of 75% on the N.R.S scale, of 27% on C.M.S. and of 23% on EQ-5D (figure 1).

The descriptive analysis has highlighted as the im-

Fig. 1 - Graphic representation of the score of outcomes, with the percentage change (%) of improvement between T0 and T1 and T1 and follow-up.

Key: T0: Beginning of treatment, T1: End of treatment, Var.: Variation

EA 1: Paziente supina, partenza con braccia abdotte e gomiti flessi a 90°. Flettere le spalle avvicinando le mani sopra alla testa facendo scorrere gli arti superiori sopra il lettino.

Dosaggio: 3 Ripetizioni x 6-8 Serie x 2 Volte al giorno.

EA 2: Paziente seduta con spalle flesse a 90° con gomiti adesi e mani dietro alla nuca. Si esegue movimento di abduzione sul piano orizzontale fino a toccare il muro.

Dosaggio: 3 Ripetizioni x 6-8 Serie x 2 Volte al giorno.

EA 3: Paziente seduta, Con le mani poco più distanti delle spalle, si tiene il bastone sulle cosce. Il movimento da effettuare a partenza dalle cosce con arrivo a 90° di flessione di spalla.

Dosaggio: 3 Ripetizioni x 6-8 Serie x 2 Volte al giorno.

EA 4: Paziente seduta, una mano afferra un bastone all'estremità, l'altra a metà. La mano a metà spinge il bastone verso l'esterno portando l'altro arto superiore in abduzione e flessione.

Dosaggio: 3 Ripetizioni x 6-8 Serie x 2 Volte al giorno.

Appendix a: self-treatment exercises protocol, "ea".

provement variation at follow-up was not so high at C.M.S and especially at EQ-5D compared to the outcomes obtained during T1. This result could derive from the fact that the patient was not being treated with MAPEA protocol during the time elapsed between T1 to follow-up, but she carried out just the EA protocol.

This is a noteworthy aspect and it should be taken into account, given that it is widely acknowledged to all rehabilitation health professionals that it is essential having a high level of life's quality in order to keep good levels of rehabilitation assistance.

CONCLUSION

In literature there are only few works that focus their attention on the rehabilitation management of AWS and the clinical case here described could be considered as a tangible model of reference to represent a strategy to further increase works with efficacy tests and range of greater recommendations. The purpose is to devise appropriate programs of rehabilitation care in line with what right now appears to be the assistance model for people affected by oncological disease, based increasingly on patient's attention and involvement aimed at improving the quality of life (20).

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Conflict of interest

The authors report no conflicts of interest in this work.