Lymphoedema Management.

Involving the patient in treatment choice and implementation.

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Introduction

Lymphoedema is a non-pitting persistent swelling caused by an incompetent or damaged lymphatic drainage system failing to adequately transport excess water, proteins and waste products away from the affected area. This accumulation of waste products in the interstitial tissues leads to a chronic inflammatory response which causes skin and tissue changes as well as progressive swelling which distorts the shape of the area affected (Foldi M, Foldi E, Kubik S 2003). Lymphoedema can have profound psycho-social and emotional consequences (Woods M 1995) as well as the physical effects of reduced function and mobility, heaviness and pain. There is also an increased risk of recurrent infection. Failure of the lymphatic system to develop normally in utero or after birth is classed as Primary Lymphoedema. Lymphoedema caused by damage such as trauma, surgery, burns, radiotherapy, infection is termed Secondary Lymphoedema (Kelsey V 2005). Breast Cancer treatment is recognised as the most common cause of Secondary Lymphoedema of the arm in developed countries. The risk of developing lymphoedema is increased when chest wall radiotherapy is used in addition to surgery and axillary node sampling/ clearance. (Mottmer et al 1996)

The purpose of this case study is to demonstrate that appropriate treatment of lymphoedema and involving the patient with information and training in a range of skills to manage their own lymphoedema can reduce the impact of lymphoedema on their lives and allow them to full goals.

Referral:

64-year old woman was with moderate to severe Secondary Lymphoedema of the left arm and hand following mastectomy and axillary node clearance and chemotherapy (no radiotherapy) 2 months previously. Referred by lymphoedema keyworker/ Breast Care Nurse at the Breast Care Unit.

The self-management regime the patient had been given of daily skin care, exercise, simple lymph drainage and wearing compression arm sleeves a full glove with was failing to control the increasing arm and hand volume. Investigations showed no evidence of disease recurrence or vascular change.

Lymphoedema history and patient’s concerns:

18 months previously, 6 months after a breast cancer surgery, as Chemo therapy was finishing, had first noticed that her arm was swelling because she couldn’t get her rings on the left hand. Swelling had got progressively worse since then. Left arm and hand was heavy, uncomfortable/ painful and felt stiff and difficult to use. The patient could not tolerate her compression sleeve since it caused constriction at wrist which was painful and increased hand swelling. Very anxious that self-management was not controlling swelling and that increasing volume would further reduce function.

Distressed by appearance of arm and particularly the hand.

Concerned that difficulty in using her arm would reduce her ability to live independently. As she had been recently widowed this was adding to her distress.

Not being able to wear her wedding ring because of finger swelling was also a very poignant loss for her in view of her recent bereavement.

She also normally visited family in America once a year and feared that the lymphoedema would prevent her flying.

On examination: Right hand dominant.

Left arm and adjacent trunk:

- Marked swelling of the fingers and palm
- Dome shaped swelling on the back of the hand and non-pitting
- Deeply indented skin fold at wrist
- Soft non-pitting swelling of whole arm, forearm > upper arm
- Swelling on left upper trunk below the axilla and a large swollen flap at the posterior end of the mastectomy scar
- Dermatitic palm of left hand. No history of cellulitis but had had “spastic spots” on arm.
- Difficulty in raising a fold of skin on the fingers, back of hand or forearm. Skin folds raised on upper arm and adjacent quadrant of trunk significantly increased (Storringer’s sign)
- Volume measurements showed a 35% overall increase in the size of the left arm, but a 28% difference in forearm size and 26% difference in upper arm size compared to the right arm
- Score on Edinburgh Post Natal Depression Scale did not indicate clinical depression

Relevant medical history:

- Chronic non-pitting swelling of left lower leg with dry thickened skin which had been a problem since she was in her early 20s. Worked at times and never reducing to normal. Always had a tendency to hand swelling but normally reversible. Never diagnosed but age of onset, signs and symptoms and family history would indicate that she has Primary lymphoedema and possibly a more lymphatic impairment affecting the left upper quadrant as well as the left lower.
- Type 2 diabetes controlled by Metformin – this has implications for treatment because of peripheral vascular changes.
- Hypertension controlled by medication – high diastolic blood pressure can reduce central drainage from the lymph system back to the venous system.
- High Body Mass Index – Has been shown to predispose to developing lymphoedema. (Stasin A et al 2006)

Patient’s goals in order of priority:

1. To be able to wear a wedding ring again.
2. To reduce stiffness and pain in her left hand.
3. To reduce size of arm.
4. To be able to fly to America without exacerbating the lymphoedema.

Management plan:

The possible treatment options (outlined below) and factors that might affect the outcomes of the treatment were discussed with the patient. She was very keen to comply with treatment offered and did not want anything to necessitate the discontinuation of the treatment.

- The patient fulfilled criteria for a course of Intensive Therapy (Moffatt, Morgan & Doherty 2005) necessary to optimise the effect of the treatment.

Referrals made to GP for treatment of the dermatitis on her left hand which was an infection risk and to her breast surgeon for excision of the flap at the end of her scar which caused pressure and discomfort under her arm. The patient was advised to persist with her weight reducing regime.

Follow up and outcomes pre intensive treatment:

After 1 week of using Kinesiostat on her hand her pain score was reduced from 5 to 0 and the swelling was improved and less tense, improving the function in her hand. But the symptoms returned when not taped.

She was carrying out the TMBER with no problems and the Tai Chi breathing exercise gave symptomatic relief.

Posterior Upper arm burning pain was still a problem so Kinesiostaping from the posterior axilla to the lower thoracic spine was demonstrated to a family member who continued to do this for her with good affect.

The dermatitis cleared with Betnovate and Diprosone from her GP, using Aqueous cream for general moisturising.

The importance of arm exercise and normal movement while bandaged was emphasised and the lighter, cohesive properties of the Actico bandages made this easier.

The hand and fingers had reduced very well and the overall shape and texture of the arm was much better with no skin fold at the wrist.

An Elvarex flat knit all in one sleeve was supplied and very well tolerated. The patient was very anxious not to have to wear a full finger glove and did not want to restrict her use of the hand. A light Microfibre glove was supplied to be worn under the full sleeve in the event of finger swelling.

Two-week intensive treatment with outcomes:

6 Weeks after initial assessment commenced the 2 week course of daily MLD and Multi-layer short stretch bandaging. Improved self-management had resulted in her arm feeling less heavy and uncomfortable and had increased her use of the arm.

35 minute MLD massage was followed by bandaging consisting of: a first layer of tubular terry stockinette, a padding layer of ribbed foam and undercast wool padding. The fingers were bandaged and a double layer of Actico short stretch bandage applied MLD tape to axilla. Extra care was taken with the padding in the axilla and initially the compression was modified, but bandaging was very well tolerated throughout. The hand swelling was slow to reduce but reintroduction of the Kinesiostape improved the response and posterior trunk taping was used throughout.

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Post Intensive Treatment follow up:

2 weeks after the end of Intensive Therapy there was some rebound swelling of the hand and wrist. Modified multi-layer short stretch bandaging to be applied at night was taught still using Actico cohesive bandages which stay in place when changing into making self bandaging easier and the tension is even as it comes off the end when kept close to the arm. It took 1 week for her to feel competent in carrying out the self bandaging and continuing with this as required was successful in maintaining the reduced volume.

Compression hosiery, skin care, exercise and massage successfully controlled the Primary lymphoedema of the left leg.

Conclusion

Quality of life was greatly improved by treatment of both the left arm Secondary Lymphoedema and left leg Primary Lymphoedema. Body image and function improved and two months later she was able to spend six months in America with her family. Her arm and hand swelling increased throughout the scan further increasing her comfort. After ten months of a continued self management regime of skin care, TMBER, exercise, hosiery and self bandaging when required, her lymphoedema is maintaining well and she feels confident enough to start wearing a wedding ring again.

This complex case of Secondary arm lymphoedema responded well to the use of a range of treatment modalities because the patient was well motivated and happy to learn new skills to control the lymphoedema.

References:

- Independent poster kindly printed by Activa Healthcare Ltd.
- Primary and Secondary Lymphoedema of the Arm in developed countries. The risk of developing lymphoedema is increased when chest wall radiotherapy is used in addition to surgery and axillary node sampling/ clearance.
- Woods M 1995: Sociological Factors and Psychosocial Implications of Lymphoedema: Involving the patient in treatment choice and implementation. Body image and function improved and two months later she was able to spend six months in America with her family. Her arm and hand swelling increased throughout the scan further increasing her comfort. After ten months of a continued self management regime of skin care, TMBER, exercise, hosiery and self bandaging when required, her lymphoedema is maintaining well and she feels confident enough to start wearing a wedding ring again.

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References:

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