Treating a Patient with Lymphedema due to Filariasis

By Nadine Maraj-Nyiri

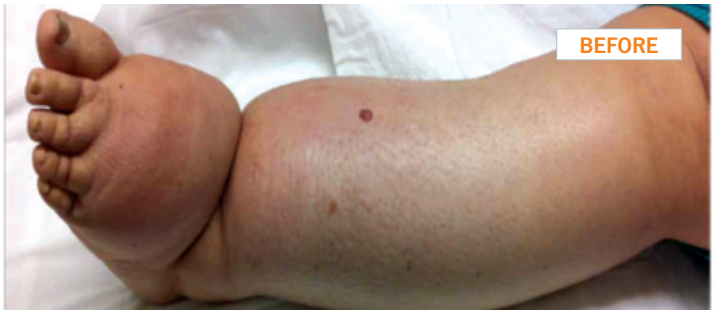
Introduction

This case study examines the success and reduction one can achieve when all aspects of Complete Decongestive Therapy (CDT) are implemented. It highlights the value of a multi-disciplinary and multi- healthcare approach, working together with family support, to help this patient manage their lymphedema. This case is of special interest to patients and therapists alike, due to the unique etiology, which is uncommon in the landscape of lymphedema manifestation in Canada.

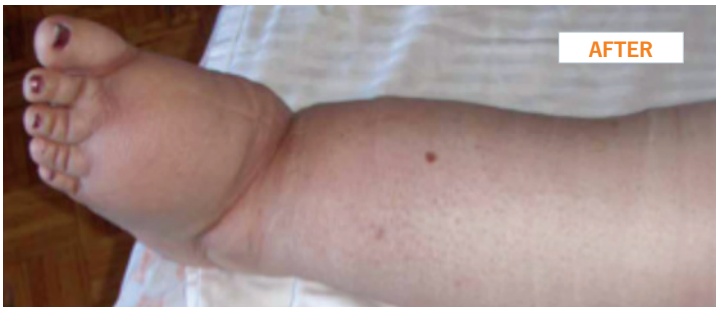
Background

A 55 year old female, (C.B.) works as a cook, providing services from home and caring for the needs of her family. Her concern was that despite her efforts to use a variety of compression materials, she still had pain, swelling and heaviness in her leg, which impacts her activities of daily life since developing swelling in her left leg 31 years ago in India.

Leg Treatment Progression

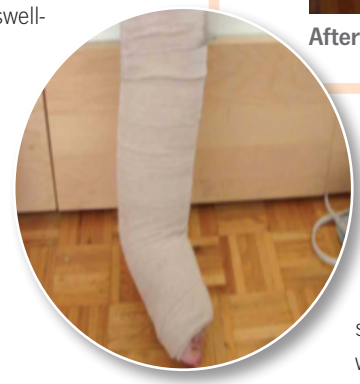


Initial assessment



After fourth treatment

Photos: N Maraj-Nyiri



Bandaging during treatment

Etiology and history

C.B. noticed prolonged swelling in her left leg and foot in 1981, while living near the sea shore in the suburbs of Bombay, India. Once her left foot and leg started to swell, she tried compression bandaging plus a variety of Ayurvedic (Indian medicine) treatments. She was diagnosed with lymphedema due to filariasis (LF), which is not uncommon in India. In Canada, a vascular specialist put her in contact with her local Community Care Access Centre (CCAC) in 2011. The CCAC bandaged her leg and changed the bandages throughout the week. C.B. was still experiencing pain and her leg would swell as soon as the bandages were removed. CCAC suggested getting compression stockings. A garment fitter suggested she get CDT treatment from a certified therapist in the community to reduce the size of her limb and learn self management techniques in order to maintain the reduction, before purchasing compression stockings.

Co-morbidities and factors impacting treatment

The patient has Type II diabetes, high blood pressure- controlled with medication and obesity contributing to these co-morbidities. She had extreme financial constraints and could only afford a limited number of treatment sessions which she worried would

Nadine Maraj-Nyiri, RMT is a Registered Massage Therapist trained in the Vodder method of complete decongestive therapy by the Dr. Vodder School. She works at the Dalecliff Medical Centre in Toronto, Ontario. She was the Co-chair of the Canadian Lymphedema Framework, Education Working Group from 2011-2013 and is still an active working member of this group.

negatively impact her treatment outcomes. Another concern of hers was the very deep groove at the ankle joint, caused by the swelling and lobular shape of the lower leg. Previously she had experienced pain and infection in this groove because the bandaging would get buried. Her altered gait also caused pain in her hips, due to how much heavier the left leg was compared to the right.

Treatment plan

We prescribed four treatment sessions. The initial visit included a review of the lymphatic system and how filariasis may have affected her lymphatic vessels. A clear treatment plan, based on her financial circumstances was mutually created and outlined, describing all four parts of CDT in detail. Family members were present and discussed that they would all adjust their schedules, attending daily to the lymphatic self massage and bandaging routine at home.

Three remaining treatments were spaced out at approximately one visit every three weeks. C.B. was instructed to come in with her leg bandaged in the last two sessions. Manual lymphatic drainage for the left leg lymphedema was provided along with a review of her self-massage routine and bandaging to ensure the home care routine was being done safely and effectively. The leg was re-bandaged at the end of each treatment with a variety of padding materials and short stretch bandages.

Assessment

At the initial visit, we compared and measured her right leg to her left. Although a picture of both legs together was not taken for comparison, C.B had no complaints regarding her right leg and it exhibited healthy tissue. The skin of the left leg was warm, very taut, shiny, red and pink along the dorsum of the foot and lower leg. The swelling was limited to this area and did not have a significant impact on her left thigh. For this reason and to maximize our time, we measured only up to the knee. No pitting edema was evident but the skin had become thicker over the toes and dorsum of the foot and distal leg. During treatments 2, 3 and 4, circumference measurements were taken and recorded at the beginning of each visit. These were compared to her non affected leg, and to the affected leg's previous treatment measurements. Her bandaging and self care routine were assessed each visit to see where things could be improved and to highlight areas where homecare had improved.

TABLE 1	Treatment #2	Treatment #3	Treatment #4
Volume of affected leg (ml)	6718 (initial measuring)	5804	4743
Difference	—	914 less compared to initial measurement	1975 less compared to initial measurement

TABLE 2	Treatment #2	Treatment #3	Treatment #4
Volume (ml)	2929	2016	954

Therapist reported treatment outcomes

Volume reduction by percentage: Upon initial measurement, the affected leg had an excess volume of 77% compared to her right leg. During the second visit the affected leg reduced to having only 53% excess volume and at the last treatment the limb had 25 % excess volume than the unaffected right leg. As C.B.'s self massage and bandaging improved, her swelling reduced, as shown in the graph.

Volume reduction in millilitres (ml)

Table 1 compares the volume of the left affected limb and the difference in volume, compared to the right unaffected leg over the series of treatments. Table 2 indicates the excess volume of edema (ml) compared to the unaffected leg.

In summary, C.B. had a total volume reduction of 1975 ml in her affected left leg. The volume of her unaffected right leg was 3789 ml. C.B had an excess volume of 954 ml compared to her right leg. She reduced by 67% compared to her unaffected leg.

Patient self-reported treatment outcomes

C.B. now wears compression stockings three times per week, and bandages the other days. She is proud of her ability to maintain a daily homecare self massage and bandaging routine, addressing her chronic lymphedema. She walks the corridors in the building where she lives, goes to Yoga when possible and has become more concerned with her diet – losing 10 pounds. C.B. felt she could walk with increased ease, less pain in both legs and hips, stand longer and do more in her daily life. C.B. had experienced the importance of all components of CDT realizing that not just bandaging helps reduce the size of her leg.

Summary

The rapid reduction of lymphedema due to filariasis examined in this case study demonstrates the importance and need for each component of CDT to be implemented properly. The multidisciplinary healthcare approach, along with family support, proved to be an invaluable resource in the successful treatment of this unique lymphedema. These resources combined, empower the patient to successfully manage their condition with confidence. LP

References

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