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Case Report

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Treatment of Post Pelvic Surgery Lower Limb Lymphedema Using Herbal Medicine

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1. Summary

1.1. Background and Purpose: Research on lymphedema mainly focuses on the upper limb after breast cancer resection. Lymphedema of lower limbs occurring after pelvic tumor resection should not be ignored. Lymphedema of the lower limbs has a great impact on the quality of life of patients.

1.2. Case Description: The reported case was a 40-year-old female who was diagnosed as late uterine cervical cancer. Total Abdominal Hysterectomy and Bilateral Salpingo-Oophorectomy (TAHBSO) without lymph node dissection was done in 2006. The patient received post-operative neo-adjuvant chemo & radiotherapy. Lymphedema of the left lower limb developed since four years later complicated with intermittent Cellulitis attacks.

1.3. Intervention: All standard conventional treatment failed to give relief. The patient was then treated with a simple double-herb formula (Astragalus and Paeoniae rubra) orally for 6 months.

1.4. Outcomes: Outcome evaluation relied on displaced water volume measurements for the affected lower limb and Lymphoedema Quality of Life (LYMQOL) assessment specific for lower limb lymphedema.

1.5. Results: there was gradual improvement in the lymphedema. After six months of treatment, swelling and LYMQOL improved and no adverse effects were experienced.

2. Background

To date, researches on lymphedema have been focused mainly on the upper limb after breast cancer surgery. Lymphedema of the

lower limbs after gynecological cancer treatment should not be ignored. Lymphedema of the lower limbs is a chronic, usually irreversible disease [1]. It seriously affects a variety of quality of life indicators. It leads to physical symptoms, impaired social functions, and emotional sufferings. [2]. This case report describes a case of lower limb lymphedema treated with unconventional therapy, viz. herbal medicine.

The aim of the case report was to observe whether patient suffering from lymphedema can benefit from a standard dose of Astragalus plus Paeoniae rubra (A&P) to improve their functional capacity, Lymphoedema Quality of Life (LYMQOL), and to help control/diminish the volume of the swollen leg.

3. Case Description

A 40-year-old female suffering from Ca uterine cervix was treated with Total Abdominal Hysterectomy and Bilateral Salpingo-Oophorectomy (TAHBSO) in 2006. Lymph node resections were not done but she received post-operative neo-adjuvant chemo & radiotherapy. Lymphedema of her left leg gradually developed 4 years later complicated with cellulitis attacks requiring repeated antibiotic treatment. When she agreed for alternating treatment using herbal medicine, the duration of lymphedema of the left leg had been 7 years. The severity of lymphedema was considered severe (Figure 2).

4. Intervention

Basing on our satisfactory results, treating upper limb lymphedema using a twin-herbs formula [3], we persuaded the patient to try the same intervention since lymphedema never improved and

cellulitis had been bothering. She agreed and was treated with the double-herb formulation containing Astragalus and Paeoniae rubra with standard oral dosages 6 times per week for 6 months.

5. Outcomes

Outcome measures relied on the objective measurements of the

total volume of the affected limb immersed into a special displacement tank (Figure 1) and the Quality of Life (QOL) special for limb Lymphoedema Quality of Life (LYMQOL). Measurements also included body weight and standard blood tests at baseline and on monthly intervals.

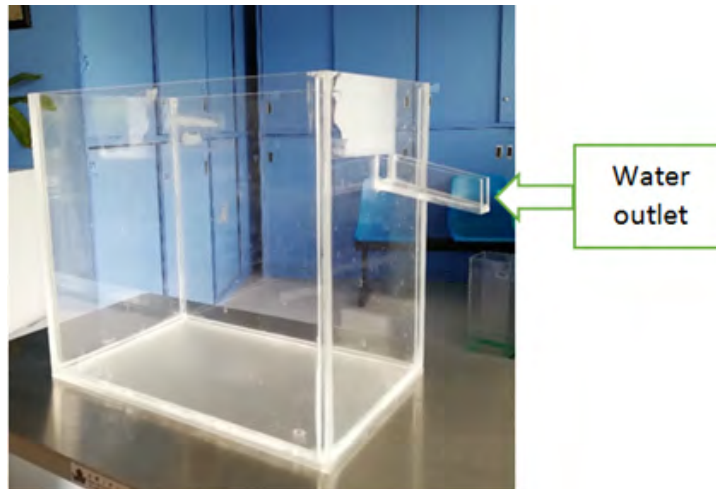


Figure 1: Standard water container to allow Water Displacement through the high-level outlet after immersion of the swollen leg.



Pre-treatment

Post-treatment

Figure 2: Lower limb with Lymphedema before and six months after treatment

5.1. Volume Changes in Lymphedema Measured with a Special Water Displacement Tank

The left leg was immersed into the standard container filled with standard level water. The amount of water displaced by a standard length of the leg gave an objective measurement of the volume of the lymphedematous limb.

Monthly recordings of the volume of the affected leg using the same device could give accurate progress of the response to treatment. A decrease in the displaced water volume reflected effective shrinkage of the lymphedema.

Water displacement technique in a standard container after immersion of the affected limb has been reported to be reliable, with an intraclass correlation coefficient of 0.99 [4, 5]. The displaced volume was recorded as milliliters (ml).

5.2. Lymphoedema Quality of Life (LYMQOL) Assessment

The LYMQOL contains four domains: function, symptoms, appearance, mood, as well as overall quality of life. Each subscale

was standardized on 0 to 3 scale. The sum of answers for each area of function, symptoms, appearance and mood are added together, then divided by the number of questions in that section to give a score for each parameter. A higher score denotes a lower quality of life associated with that parameter [6].

6. Overall Results

The patient with 8 years' history of left leg lymphedema was treated with the herbal medicine for 6 months.

Using the water displacement volume as an indicator of volume change in the affected leg, a gradual decrease of 13.3%, i.e. loss of 800ml was observed in six months (Table 1).

The body weight of the patient was also measured periodically during the treatment period. Table 2 indicated a gradual loss of body weight in parallel with the improvement of lymphedema.

Table 1: Lower limb displaced water volume (ml) of individual case

Subject	Basic information			Visit							Overall volume change
	age	Affected limb	Lymph start	Baseline	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	
LYM-P-002	40	Left Limb	2010	6000	5440	5850	5500	5850	5650	5200	-800

Table 2: Body Weight of individual case (kg)

Subject No.	Etiology of Lymphedema	Visit							
		Baseline	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Change(%)
LYM-P-002	Ca cervix	85	85	85	84	85	83	82	-3.50%

6.1. Quality of Life (LYMQOL)

Independent scales for function, symptoms, appearance, mood, were included in the questionnaire. Each of these included several questions which were marked from 0 to 3, three being the worst. The sum of answers for each area of function, symptoms, appearance and emotions were added, then divided by the number of questions in that section to give a score for each parameter. A higher score denoted a lower quality of life associated with that parameter.

With regard to QoL the LYMQOL questionnaire showed that all the domains, i.e. functional, appearance and symptoms scores improved with the except of status of mood (Table 3).

The patient was very happy with the herbal treatment and she did not experience any cellulitis attack during the 6 months of herbal treatment.

Table 3: Lymphoedema Quality of Life (LYMQOL)

case No.	Function		Appearance		Symptoms		Mood	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
LYM-P-002	2.4	2	3	2.7	2.2	2	0	2

7. Discussion

The overall results of using the unconventional herbal therapy for this case of leg lymphedema had been encouraging. No adverse reactions were reported; No infection occurred during the herbal medicine treatment period. After 6 months of treatment, there was no abnormality in blood tests. There was a clear indication of lymph edema controlled measured with Water Displacement technique after the herbal medicine treatment. The most encouraging improvements were the feeling of reduced heaviness, less congestion, more comfort and reduced inflammation. The leg function remained satisfactory.

Since standard treatment options have never been satisfactory for lymphedema, the quest for alternative therapy is mandatory. Assuming that the resistance to treatment in lymphedema is related not only to the obstructive drainage, but also to co-existing fibrotic tendencies affecting the lymphatic patency, efforts have been put on the identification of molecular mechanisms capable of controlling inflammation and fibrosis. Bio scientists in Hong Kong

have found that two chemical compounds calycosin and gallic acid [7], derived from two medicinal plants viz, Astragalus and Paeonia, when mixed together, could exert powerful anti-inflammatory and antifibrotic effects [8]. This explains the origin of the twin herb formula of Astragalus and Paeonia with which we treated our patient with leg lymphedema. Earlier, we have reported a short cohort of post mastectomy patients with upper limb lymphedema treated with the same twin herbs formula and the results were very good.

8. Conclusion

After 6 months treatment with a simple double-herb formula, swelling and LYMQOL improved and no adverse effects were experienced. Our new experience with lower limb lymphedema would give further encouragement to more laboratory studies and clinical trials on the herbal formula.

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