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TreatmentofPostPelvicSurgeryLowerLimbLymphedemaUsingHerbalMedicine

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1. Summary

BackgroundandPurpose: Researchonlymphedemamainly focusesontheupperlimbafterbreastcancerresection.Lymphedema of lower limbs occurring after pelvic tumor resection should notbeignored.Lymphedemaofthelowerlimbshasagreatimpact on the quality of life of patients.

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)withoutlymphnodedissectionwasdonein2006.The patientreceivedpost-operativeneo-adjuvantchemo&radiotherapy.Lymphedemaoftheleftlowerlimbdevelopedsincefouryears later complicated with intermittent Cellulitis attacks.

Intervention: All standard conventional treatment failed to giverelief.Thepatientwasthentreatedwithasimpledouble-herb formula (Astragalus and Paeoniae rubra) orally for 6 months.

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

Results:therewasgradualimprovementinthelymphedema. After six months of treatment, swelling and LYMQOLimproved and no adverse effects were experienced.

2. Background

Todate,researchesonlymphedemahavebeenfocusedmainlyon theupperlimbafterbreastcancersurgery.Lymphedemaofthe

lower limbs after gynecological cancer treatment should not be ignored.Lymphedemaofthelowerlimbsisachronic,usuallyirreversible 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 caseoflowerlimblymphedematreatedwithunconventionaltherapy, viz. herbal medicine.

Theaimofthecasereportwastoobservewhetherpatientsuffering fromlymphedemacanbenefitfromastandarddoseofAstragulus plus Peoniae 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

A40-year-oldfemalesufferingfromCauterinecervixwastreated with Total Abdominal Hysterectomy and Bilateral Salpingo-Oophorectomy(TAHBSO)in2006.Lymphnoderesectionswerenot done but she received post-operative neo-adjuvant chemo & radiotherapy.Lymphedemaofherleftleggraduallydeveloped4years 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 totrythesameinterventionsincelymphedemaneverimprovedand

cellulitishadbeenbothering.Sheagreedandwastreatedwiththe double-herbformulationcontainingAstragalusandPaeoniaerubra with standard oral dosages 6 times per week for 6 months.

5. Outcomes

Outcomemeasuresreliedontheobjectivemeasurementsofthe totalvolumeoftheaffectedlimbimmersedintoaspecialdisplacement tank (Figure 1) and the Quality of Life (QOL) special for limb Lymphoedema Quality of Life (LYMQOL). Measurements alsoincludedbodyweightandstandardbloodtestsatbaselineand on monthly intervals.

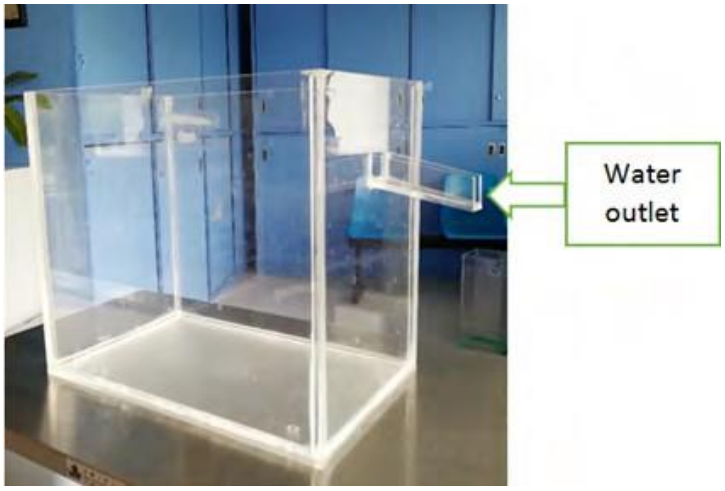

Figure1: StandardwatercontainertoallowWaterDisplacementthroughthehigh-leveloutletafterimmersionoftheswollenleg.

Pre-treatment Post-treatment

Figure2: LowerlimbwithLymphedemabeforeandsixmonthsaftertreatment

VolumeChangesinLymphedemaMeasuredwithaSpecial Water Displacement Tank

The left leg was immersed into the standard container filled with standardlevelwater.Theamountofwaterdisplacedbyastandard lengthoftheleggaveanobjectivemeasurementofthevolumeof the lymphedematous limb.

Monthly recordings of the volume of the affected leg using the samedevicecouldgiveaccurateprogressoftheresponsetotreatment.Adecreaseinthedisplacedwatervolumereflectedeffective shrinkage of the lymphedema.

Waterdisplacementtechniqueinastandardcontainerafterimmersionoftheaffectedlimbhasbeenreportedtobereliable,with an intraclass correlation coefficient of 0.99 [4, 5]. The displaced volume was recorded as milliliters (ml).

LymphoedemaQualityofLife(LYMQOL)Assessment

The LYMQOL contains four domains: function, symptoms, appearance,mood,aswellasoverallqualityoflife.Eachsubscale wasstandardizedon0to3scale.Thesumofanswersforeacharea of function, symptoms, appearance and mood are added together, then divided by the number of questions in that section to give a scoreforeachparameter.Ahigherscoredenotesalowerqualityof life associated with that parameter [6].

6. Overall Results

Thepatientwith8years'historyofleftleglymphedemawastreated with the herbal medicine for 6 months.

Using the water displacement volume as an indicator of volume changeintheaffectedleg,agradualdecreaseof13.3%,i.e.lossof 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.

Table1: Lowerlimbdisplacedwatervolume(ml)ofindividualcase

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

Table2: BodyWeightofindividualcase (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%

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, appearanceandemotionswereadded,thendividedbythenumber 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 thedomains,i.e.functional,appearanceandsymptomsscoresimproved 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.

Table3: LymphoedemaQualityofLife(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

Theoverallresultsofusingtheunconventionalherbaltherapyfor this case of leg lymphedema had been encouraging. No adverse reactions were reported; No infection occurred during the herb-al medicine treatment period. After 6 months of treatment, there wasnoabnormalityinbloodtests.Therewasaclearindicationof lymphedemacontrolledmeasuredwithWaterDisplacementtechnique after the herbal medicine treatment. The most encouraging improvementswerethefeelingofreducedheaviness,lessconges-tion, 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 notonlytotheobstructivedrainage,butalsotoco-existingfibrotic tendencies affecting the lymphatic patency, efforts have been put on the identification of molecular mechanisms capable of controllinginflammationandfibrosis.BioscientistsinHongKong havefoundthattwochemicalcompoundscalycosinandgallicacid [7], derived from two medicinal plants viz,Astragalus and Paeoniae,whenmixedtogether,couldexertpowerfulanti-inflammato- ry and antifibrotic effects [8].This explains the origin of the twin herb formula of Astragalus and Paeoniae with which we treated ourpatientwithleglymphedema.Earlier,wehavereportedashort cohort of post mastectomy patients with upper limb lymphedema treatedwiththesametwinherbsformulaandtheresultswerevery 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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