Dr. Vodder School™
NORTH AMERICA

THERAPY NEWS

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Inside this issue:

Editorial

Robert Harris, HND, RMT, CLT-LANA

This is the tenth year the Dr. Vodder School has been offering the Therapy II & III classes in North America. In August 1993, 66 therapists attended the first class in Vancouver, BC and many are still coming to the Reviews. Now there are over a thousand therapists who have completed their Dr. Vodder School training in North America. Therapy II and III courses are offered in Australia, Canada, England, European countries and the USA and there are more planned. Our reviews go back even further. The first North American Review was held in Houston, Texas in 1991, attended by 25 therapists. This was not only the first Review but also was the forming ground for NAVALT. I always marvel at the great work our therapists are doing and the impact this has on our patient's lives. One of our most accomplished North American therapists has written an excellent article on Axillary Web Syndrome and other therapists have made some great contributions to this issue of Therapy News. §

Axillary Web Syndrome

Jane M. Kepics, MS, PT, CLT-LANA

For therapists working with breast cancer patients, the following scenario is not uncommon.

"Mrs. Smith is a 52 year old female one month status post a right lumpectomy and axillary node dissection for breast cancer. Her lymph nodes were free of metastatic disease and she will begin primary radiation therapy next week. She is referred to physical therapy for postoperative education in lymphedema precautions. However on initial examination, she complains of an inability to straighten her right elbow or lift her arm overhead due to pain going down the right arm to the wrist. There is a visible tight "cord" from the axilla to the elbow with tenderness to palpation of this taut tissue."

What is Axillary Web Syndrome?

For many years, we talked about "cording", but documentation of this phenomenon was virtually nonexistent. Now, thanks to a group of researchers at the University of Washington in Seattle, we have an initial research project and a new diagnosis, namely "Axillary Web Syndrome" (AWS)[1]. They suggest that AWS is a result of interruption of the axillary lymphatics during axillary node dissection and is a variant of Mondor's disease[2].

They describe Mondor's disease as a superficial thrombophlebitis of the subcutaneous veins of the chest. It is occasionally seen after local trauma, after breast procedures, as an idiopathic variant and with undiagnosed breast cancer. Its symptoms are pain, tenderness and skin retraction over a cord-like structure on the chest wall. Research has suggested that thrombosed lymphatics rather than veins are responsible for the development of Mondor's disease.

AWS is described as "a visible web of axillary skin overlying palpable cords of tissue that are made taut and painful by shoulder abduction (Figure 1). The web is always present in the axilla and extends into the medial ipsilateral arm, frequently down to the antecubital space and occasionally to the base of the thumb."

Research on AWS

Drs. Moskovitz and Anderson et al[1] performed a retrospective study of 44 out of 750 breast cancer patients (6%) treated or examined by one surgeon – Roger E. Moe MD - at the University between 1980 and 1996. The women's ages ranged from 27 to 73 years old. They demonstrated a variety of breast cancer histology. Twenty eight received lumpectomies while 14 patients were treated with modified radical mastectomies. One patient had no operative record available. Another patient had no surgery, but was diagnosed with Stage IV breast cancer and had extensive nodal disease. They also examined 4 more recent patients with AWS after sentinel node biopsy (SLND) without axillary lymph node dissection (ALND). Tissue sampling of the web was done in four patients.

AWS appeared in three of the 44 patients (6%) within the first postoperative week. Forty two patients (95%) developed AWS within eight weeks of surgery. Ten patients had their breast surgery on a date earlier than their axillary node dissection. AWS appeared a mean 51 days after the breast surgery but only a mean 16 days after the ALND. Seventy-four percent (74%) of the patients demonstrated shoulder abduction of 90°. Eleven percent developed lymphedema – not an unusual percentage for this population.

Those patients who had SLND without ALND developed webs that were limited to the axilla and medial arm. They did not extend into the wrist.

Tissue sampling of the webs of four patients yielded two with dilated lymphatics. One of the lym-

Axillary Web Syndrome ….. continued

phatics was filled with fibrin clot. Three of the samples demonstrated venous thrombosis.

The researchers describe AWS as self limiting, resolving in all cases within two to three months without long term sequelae. They did not demonstrate early resolution of symptoms with nonsteroidal anti-inflammatory drugs or physical therapy and range of motion (ROM) exercise.

Dr. Moe speculates that the thrombosed lymphatics go through an inflammatory phase with thickening of the vessels and temporary shortening and tightening which later remits. What happens when the syndrome resolves is unknown at this time. Research is needed to determine if those lymphatics become functional again or if lymph flow is diverted to other pathways.

> *“What happens when the syndrome resolves is unknown”*

As a physical therapist specializing in the treatment of breast cancer and lymphedema, I have treated many patients with what I now refer to as AWS. The researchers’ description is accurate but I do question their definition of resolution of symptoms. I often see patients months to years after surgery who have never quite achieved full ROM in the operative shoulder. They complain of tightness and tenderness in the axilla, and at times, extending into the chest wall. Their shoulder posture is slightly protracted with a mild thoracic kyphosis. I suggest that perhaps the syndrome didn’t totally resolve. Just like with lymphedema, patients stop complaining to their surgeons and learn to “live with it”.

Initial Examination

When performing an initial examination, lymphedema therapists are in a unique position to look for remnants of AWS and to treat it, if it is within their scope of practice. Certainly maximizing the ROM in the upper quarter will improve muscle contraction and facilitate lymph flow. Improving posture and utilizing proper diaphragmatic breathing are also desired goals. Sometimes the cordlike structures pull tightly and deform the tissue in the upper arm, making it look edematous. Once treated, the cord and the swelling may (but not always) resolve. Combined decongestive therapy may be necessary to control the swelling and reduce pain.

> *“Therapists are in a unique position to look for remnants of AWS.“*

Treatment

Treatment for AWS takes several forms. My treatment plan has evolved over several years of practice and after many discussions with other therapists. I utilize various myofascial release and craniosacral techniques since the syndrome appears to be soft tissue related rather than due to muscle tightness. Unfortunately I cannot provide a research basis for the treatment but I hope to give the reader a starting point.

Patients with AWS should be treated gently in the early stages especially if acute pain and inflammation are present. I may use local heat or ice on the painful areas. Always check sensation – including hot/cold – prior to thermal modalities, as patients frequently have impairment due to loss of the intercostobrachial nerve during surgery. Use extra padding when applying heat, with a short treatment time of eight to ten minutes. I also visually inspect the site several times to prevent burns. If I am concerned about triggering lymphedema due to the heat, I will perform MLD afterwards. For home, I suggest patients get in a warm shower rather than use local heat as a further precaution against burning.

Next, I will work on stretching the cord. I generally work distal to proximal. Start with the shoulder slightly abducted with the elbow as straight as possible; supinate the arm and hyperextend the wrist. The patient can flex and hyperextend the wrist slowly to provide maximum stretch and then a release, similar to nerve gliding techniques. Depending on the extent of the cord, this can be repeated with the arm in various degrees of abduction until eventually she can abduct overhead. This may take several visits depending on the acuity of the pain.

Skin traction is another beneficial technique. I gently stretch one or two inch segments of the cord with my thumb and index finger. This can be done all along the arm, in the axilla and on the chest wall. I usually include the area around the scar where the Jackson Pratt drainage tube was located, as I often find cords as far down as that scar. Occasionally, I can feel a pop or a snap where the cord actually breaks in the antecubital fossa or in the axilla. It is not painful and the patient usually feels an immediate increase in mobility. In a personal communication with Dr. Moe, I wondered if breaking the cords was a safe practice. He questioned if we were actually breaking the cord or rather the supporting fibrous structures around them. I have not seen any ill effects of this practice and patients tend to maintain their newfound ROM without any increase in swelling.

Myofascial release techniques such as the “arm pull” and stretching of the pectoralis major and minor, the intercostals and rib cage, the biceps and triceps and the diaphragm release are also very helpful in stretching out the axillary web[3]. Gross scar release techniques both in parallel and perpendicular to the breast and axillary scars, as well as skin rolling techniques and vertical lifts of the scars may also be beneficial.

Axillary Web Syndrome ….. continued

I often have the patients use a reciprocal pulley and a finger ladder to encourage their participation in the treatment program and to help them define their ROM limits. Pulleys purchased for home use are quite helpful to continue daily stretching. Finally, patients are instructed in good upright posture and deep breathing exercises.

Therapists can be proactive by including AWS in postoperative teaching along with arm mobility exercises and lymphedema precautions. Patients need to know the possible compromises to their mobility so they can seek treatment early and prevent further functional loss.

[1] Moskovitz AH, Anderson BO et al. Axillary web syndrome after axillary dissection. Am J Surg 181:434-439, 2001

[2] Marsch WC, Haas N et al.”Mondor’s phlebitis” -a lymphovascular process. Dermatologica 172:133-8, 1986

[3] Manheim C. The Myofascial Release Manual. Third Ed. Slack, Inc 2001

Jane M. Kepics is a lymphedema specialist at Phoenixville Hospital of the University of Pennsylvania Health System in Phoenixville, PA. She has been a practicing physical therapist for 25 years. She has been Vodder certified since 1987. §

Fluid Motion Physical Therapy:

Starting a practice in lymphedema therapy

Jill Lanier, MS, PT

Sitting with my peers at the June 2003 Therapy II and III in Stowe, VT I remember stating, “If I don’t pass I can’t go home. I will just have to stalk Robert until he passes me.” My desperation was justified. You see I am a 24 year old physical therapist that has only been out of school two years. Before going to Therapy II and III, I quit my job, moved to a different city, rented a building, remodeled it and planned on opening my own physical therapy practice in less than a month after getting Vodder Certified.

Citizens in West Virginia had few choices of facilities to be treated for lymphedema. Those in southern West Virginia had to travel 2-4 hours to Morgantown, WV or to Charlotte, NC to be treated. While observing Jean Coletti treating a patient that had traveled three hours to the Morgantown clinic, the patient stated the need for a therapist in Charleston and requested that one of us relocate. Jean and I agreed a therapist in the capital city would be beneficial but neither of us were in the position to take that leap. The idea remained in the back of my mind and every time I saw the patient she would mention it again.

I remember going to my husband in January 2003, and asking if he would support me if I were to open my own clinic? Being the great husband that he is, he not only supported me but he gave up his career as an engineer to bill insurances and manage my private practice. In March, we received our official letter of incorporation for Fluid Motion Physical Therapy, Inc.

Now that you know how this all came about I can get to the reason why I was asked to write this article. Robert asked if I would share ideas about opening a private practice with an emphasis on advertising techniques.

I would like to begin with a few rules for survival.

A: Apply 6 months in advance to be a provider for insurances.

B: To get a loan via the Small Business Association start the progress 6-12 months in advance.

C: Know your surrounding competition.

D: Educating the doctors and community is the key to success. Make sure they know you are not performing “voodoo” as I have been accused.

E: Only accept one Medicaid or private pay patient at a time.

F: Everyone needs a day off. I am making it a point to take at least one day off every 2 months.

We have found that the free advertisement that we have used has resulted in the most patient referrals. We have received no patients from our paid advertisement on the radio and signs in public areas. Therefore, the following advertisement ideas are FREE!

1. Surveyed 70 doctors asking how many lymphedema patients they have seen per year, what treatment they prescribed, if they knew what Vodder CDT was and if they would like to have an inservice. This survey had six questions with boxes/choices to check. We made it simple and asked them to fax it back.

2. Called local breast cancer support groups and asked to be the guest speaker. The members were supplied with a pamphlet on lymphedema and a copy of a power point presentation. Our first 5 patients came from one group.

3. Have a ribbon cutting ceremony. The local Chamber of Commerce officials will come down to cut the ribbon. You inform the newspapers and the media about the event. They are usually glad to report on new businesses. The best part, its FREE!

4. If you are the only person in your area to provide CDT then let the local TV and newspaper stations’ Health Smart/Health Matters hosts know what you do. We have been on TV twice including the five o’clock news and have appeared in a large article in the state’s most popular paper. We have received approximately 20 patients from these techniques within 2 weeks.

5. Place your card and pamphlets on lymphedema in local wig shops, medical equipment stores, Curves for Women, etc. Place your information everywhere a possible patient would go. §

“Sharing ideas about opening a private practice with on emphasis on advertising techniques.”

Getting The Word Out

Carmelita Rifkin, MS, PT

We all love what we do and feel like we want to spread the word to educate not only the layperson, but also the medical profession in general. Some ideas on how to get involved are:

- Start a lymphedema support group (can check National Lymphedema Network website for guidelines).
- Contact a lymphedema support group and offer to be on the board of directors.
- Plan for lymphedema awareness day in March by setting up a presentation or working with a lymphedema support group. In our town, the president of a lymphedema support group contacted the mayor of our town to set up a special day. Being that I am in this field, I was involved in presenting a topic of interest in this area.
- If setting up Lymphedema awareness is too involved for you, then during Breast Cancer Awareness Month, you may be able to contact a sponsor of an event and speak about lymphedema.
- Get involved in education – can be a presenter in a manual therapy course for example, to explain what CDT is all about.
- Set up appointments with oncologists, radiologists, orthopedists, etc. to do an in-service on CDT.
- Get involved in a cancer walk fund raiser event or a health fair, offering a service such as a hand massage, and have a poster presentation set up to educate people about lymphedema, along with brochures, fact sheets, business cards, etc.
- If you do something to become involved, spread the word by doing an article and/or taking a picture and submitting it to your local paper or newsletter. This helps keep the community informed that you are involved and caring.

If you have any further questions, feel free to contact Carmelita Rifkin at 1-203-758-6569 or e-mail at – RifkinPhysicalTh@aol.com. §

Montreal Lymphedema Congress 2003

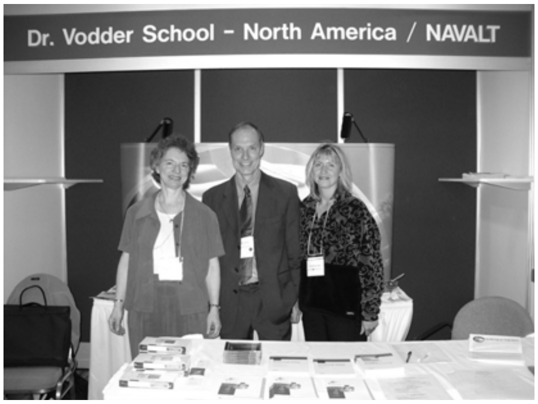


Exhibit at the Montreal conference with Gay Lee Gulbrandson, Robert Harris and Samantha Douglas

The First Montreal International Lymphedema Congress was held at the Wyndham hotel in downtown Montreal May 28 - 30. This was a combined effort of the Lymphedema Association of Quebec and McGill University and had sections for both health care practitioners and patients. Approx. 350 people registered for this very well organized conference with opportunities to attend scientific presentation, workshops and roundtable discussions. The keynote speaker was Professor Weissleder from Germany who spoke on physiology, treatment strategies, results and future perspectives for lymphedema. Dr. Andrea Cheville of the University of Pittsburgh gave talks on lymphedema in gynecological disorders, palliative care and exercise. Dr. John MacDonald of the University of Miami gave talks on wound healing and compression techniques as well as how to build a lymphedema program. Professor Susan Harris from the University of British Columbia presented talks on the myth of exercise-induced lymphedema as well as research on exercise interventions and development of clinical practice guidelines for lymphedema. There was much lively discussion of these topics. Professor Wittlinger gave a talk on the history of Dr. Emil Vodder. Many Vodder therapists also gave presentations and the Dr. Vodder School was well represented at the exhibit hall with a co-exhibit with NAVALT. Overall the conference was a well needed step in the right direction in Quebec, Canada and North America and will result in improved patient care on this continent. §

Therapeutic Exercise in Lymphedema Mangement

Excerpts and Photography from an article written by Sherry Lebed Davis. All rights reserved.

"The Lebed Method" Focus on Healing through Movement and Dance is a therapeutic exercise and movement program. This established and published program not only helps regain and maintain range of motion, frozen shoulder, balance issues, but is also directed toward helping to reduce the risk of lymphedema and the swelling caused by lymphedema.

"The Lebed Method" was developed by Sherry Lebed Davis a movement Specialist and Dr. Marc Lebed and Dr. Joel Lebed in 1980 at Albert Einstein Medical Center in Philadelphia, Pennsylvania. It was one of the first Hospital based programs of its kind and one of the first published studies based on Physical Therapy and Dance in the surgical management of Breast Cancer[1].

THE QUALITY IS IN OUR HANDS:
TRAINING EXCELLENCE

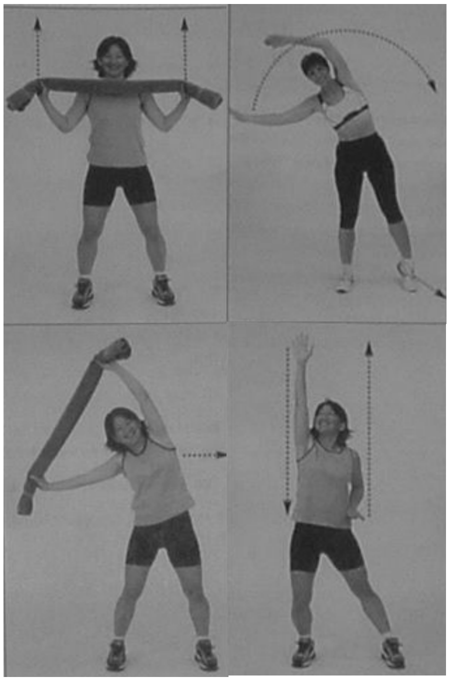
Therapeutic Exercise ….. continued

We found that many individuals who have undergone treatment for lymphedema were interested in being involved in a “fitness program” but did not know where to begin. Concerns about how to get started, what type of exercises to do, and the fear of injury may prevent someone from beginning an exercise program. Therefore, in 1998 the three founders and developers of “The Lebed Method” introduced exercises to help open the Lymphatic system into their program. Since then people with upper and lower lymphedema have been using this program as a way to reduce swelling, help with fatigue and depression and get back in exercising again without worrying about injury. This program is gentle and easy to do by anyone.

We have put certain exercises/movements in an order that follows the lymphatic system and its flow. With these exercises followed in the exact order that it was developed the patient can work in complement with MLD and bandaging to help the lymphatic flow and begin to move lymph fluid. In October 2003 there will be a study from a large research hospital on the effects of “The Lebed Method” and Lymphedema. It will be the first research project of its kind and we are very excited about it and the outcome.

Today over 250 hospitals, cancer centers, fitness centers, and community centers have this program across the US, Canada and Korea. There is a certification program offered across the US and in Canada to enable more people to benefit from this very successful program. A study just completed at UCONN using “The Lebed Method” in the US will be published shortly and another study is underway to work with “The Lebed Method” and those with lymphedema. For more information go to our website at www.focusonhealing.org. §

1. Mlinaro J, Kleinfeld M, Lebed S: Physical Therapy and Dance in the Surgical Management of Breast Cancer. Physical Therapy 66, # 6 1986.



Stowe Review 2003

The Golden Eagle resort in Vermont has proven to be a popular and relaxing location for both the Review and Therapy II and III courses. 45 therapists attended the Review and Hildegard and Andreas Wittlinger as well as Robert Harris led the practical course. Case presentations were made by Charlene Springer, MT on the treatment of a professional female athlete with lower back and hip pain. Britte Sunde LMT presented on a patient who had a post-traumatic lymphedema. Jane Kepics, MS, PT gave a thorough presentation on Axillary Web Syndrome, describing the cause and treatment of cording seen in the axilla and arm. Gayle Hickok, LMT presented on Thoracic Outlet Syndrome and described the impact on lymphedema. During the bandaging class we had a presentation by Kathy Weatherly, OT, about a new pressure sensing device (S^3 Sensor System). This sensor strip can be placed on top of the stockinette and then bandaging done over the top of it. The strip is connected to a computer and gives a dynamic screen of the actual pressures exerted on the arm. It was a fascinating device to see how we are bandaging and the types of pressure we are using and several therapists tried their bandaging skills using the sensor strip. This might be a useful tool to use in the future for research. (Contact Freya Reeves at freya_reves@charter.net for further information.)

Professor Weissleder gave an excellent talk on current anatomical and physiological research into the lymph system as well as new tools in cancer diagnosis. He also described new directions in lymphedema treatment and diagnosis as well as some interesting and unusual cases. Robert Harris gave a presentation on his research with Prof. Piller at Flinders Medical Centre in Australia and Andreas Wittlinger described the treatment of burns with MLD. §

Pressure testing seminar

Congratulations to our 2003 Therapy II & III graduates

Adelaide April 2003

Olivia Cimadevilla Arriero	MT	Redfern, NSW, Aust.
Nadene Allan	MT	Clare, SA, Aust.
Kris McLeod	RMT, B.SC.	Parkside, SA, Aust.
Dagmar Wong	RN, MT	Hampton Park, VIC, Aust.
Barbara Dickson	RGN, STN	Bridgetown, WA, Aust.
Linda Khong	B.APP. SC	Cottesloe, WA, Aust.
Cheryl Gilbert	RMT	Orewa, NI, New Zealand
Linda Wee	B.APP. SC	Singapore, Singapore
Juanita Redfern	LMT	Kaweohe, HI, USA


Adelaide Class


Stowe Class

Stowe June 2003

Fern Skabo	LMT, BSN,RN	Naples, FL, USA
Rachel Tritaik	PT	Sebastian, FL, USA
Anna Gijzen	OTR/L	Amherst, MA, USA
Suzanne Higgins	MT	Stockbridge, MA, USA
Susan Zimmerman	PT	West Springfield, MA, USA
Mary Danetta Miller	LMT	Baltimore, MD, USA
Norma Ferrell	MT	Durham, NC, USA
Lauren Gillen	RMT, BA	Sutton, ON, Canada
Lucia Romano	RMT	Whitby, ON, Canada
Kathleen Baker	BSc N, RN	Cranberry, PA, USA
Connie Burt	PT	Austin, TX, USA
Theresa Marie Hill	MOTR/L	Dallas, TX, USA
Skip McDougald	PTA	Iola, TX, USA
Jenny St. Onge	OTR/L	Milton, VT, USA
Jill Lanier	MS PT	Culloden, WV, USA
Lora Cain	LMT, RN	Morgantown, WV, USA

Victoria August 2003

Sydne Brewer	LMT	Seattle, WA, USA
Shari Crivello	OTR/L	Wauwutosa, WI, USA
Thomas LeFaive	LMT	Calgary, AB, Canada
Suzanne Personnier	RMT	Enderby, BC, Canada
Claire Higgins	RMT	Victoria, BC, Canada
Christine Musante	MS, PT	Danville, CA, USA
Allyn Rankin-Martinez	OTR, MA	Danville, CA, USA
Leah Pineda-Burmas	MOTR/L	Fremont, CA, USA
Irma Lynn	MT	San Carlos, CA, USA
Beth Alexander	LMT	Wilmington, DE, USA
Barbara Goodwin	RMT	Almonte, ON, Canada
Tim Bowstead	RMT, BAppSc	Ottawa, ON, Canada
Louise Haley	RN, PT	Ottawa, ON, Canada
Louise Killens	BSc PT	Ottawa, ON, Canada
Mary Hart	BSc PT	Picton, ON, Canada
Alyssa Blais	RMT	Montreal, PQ, Canada
Natasha Grant	BSc PT	Montreal, PQ, Canada


Victoria Class

Victoria Review 2003

A new workshop in problem-solving for patient treatment was incorporated into this Review. Local therapists were invited to bring challenging patients and small-group discussions were held with the patients about treatment approaches. The class then problem-solved as a group to determine best treatment options. Case presentations were made by Dawn Hancock, OTR/L on a patient with multiple myeloma; Julie Chatelain, RMT on a breast cancer patient; Nancy Hunter, RMT on a patient with a venous ulcer with edema; John Tuttle, LMP on a patient with a knee replacement; Rae Baron, RMT on a patient with a radical mastectomy; Tina Hammond, PTA on a patient with arm lymphedema and an unusual case of amputation!!; Mike Powell, LMT on a patient with bilateral leg lymphedema. Patients and local therapists were also invited to attend the lectures on the final morning of the Review. We were delighted to have Prof. Weissleder present current research in lymphology and Angela Vollmer, presenting on garment fitting. She demonstrated fitting a garment for a patient with a difficult edema.

The first Marnitz class taught by Andreas Wittlinger, PT was held in Victoria and reports have been very positive. This effective technique can be use to treat musculoskeletal problems with lymphedema patients. §


Andreas Wittlinger, PT demonstrates Marnitz Therapy to Catherine Russell, BScPT

Current research articles

Williams AF, Vadgama A, Franks PJ, Mortimer PS: A randomized controlled crossover study of manual lymphatic drainage therapy in women with breast cancer-related lymphoedema. European Journal of Cancer Care. 11(4):254-61, 2002 Dec.

Abstract

This paper describes a randomized controlled crossover study examining the effects of MLD in 31 women with breast cancer-related lymphedema. A modified version of MLD, referred to as simple lymphatic drainage (SLD), is commonly taught as a self-help measure. There has been limited research into the efficacy of MLD and SLD. The findings demonstrate that MLD significantly reduces excess limb volume and reduced dermal thickness in the upper arm. Quality of life, in terms of emotional function, dyspnoea and sleep disturbance, and a number of altered sensations, such as pain and heaviness, were also significantly improved by MLD.

Harisinghani MG, Barentsz J, Hahn PF, Deserno WM, Tabatabaei S, Hulsbergen van de Kaa C, de la Rosette J, Weissleder R: Noninvasive Detection of Clinically Occult Lymph-Node Metastases in Prostate Cancer New Engl. J Med; 348:2491-2499, 2003.

Abstract

Accurate detection of lymph-node metastases in prostate cancer is an essential component of the approach to treatment. We investigated whether highly lymphotropic superparamagnetic nanoparticles, which gain access to lymph nodes by means of interstitial–lymphatic fluid transport, could be used in conjunction with high-resolution magnetic resonance imaging (MRI) to reveal small nodal metastases. Eighty patients with presurgical clinical stage T1, T2, or T3 prostate cancer who underwent surgical lymph-node resection or biopsy were enrolled. All patients were examined by MRI before and 24 hours after the intravenous administration of lymphotropic superparamagnetic nanoparticles (2.6 mg of iron per kilogram of body weight). The imaging results were correlated with histopathological findings.

Of the 334 lymph nodes that underwent resection or biopsy, 63 (18.9 percent) from 33 patients (41 percent) had histopathologically detected metastases. Of these 63 nodes, 45 (71.4 percent) did not fulfill the usual imaging criteria for malignancy. MRI with lymphotropic superparamagnetic nanoparticles correctly identified all patients with nodal metastases, and a node-by-node analysis had a significantly higher sensitivity than conventional MRI (90.5 percent vs. 35.4 percent, P<0.001) or nomograms.

High-resolution MRI with magnetic nanoparticles allows the detection of small and otherwise undetectable lymph-node metastases in patients with prostate cancer.

Wratten C, Kilmurray J, Wright S, O'Brien PC, Back M, Hamilton CS, Denham JW, Pilot Study of High-Frequency Ultrasound to Assess Cutaneous Oedema in the Conservatively Managed Breast. Int. J. Cancer (Radiat. Oncol. Invest.) 90, 295–301 2000.

Abstract

Cutaneous oedema is a relatively frequent complication in patients treated conservatively for breast cancer. The factors that contribute to this complication have not been precisely determined.

We performed a pilot study to assess the usefulness of high-frequency ultrasound as a quantitative measure of cutaneous oedema. Eleven patients undergoing breast-conserving therapy for breast cancer were studied. Both the treated and untreated breasts were examined. Total cutaneous thickness provided a useful measure of cutaneous oedema. The treated breast was significantly thicker than the untreated breast ($P < 0.001$). The medial aspect of the breast was thicker

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Current research articles ….. continued

than the lateral aspect in both the treated and untreated breast ($P < 0.001$). The increase in cutaneous thickness predated radiotherapy in those patients who had undergone an axillary dissection. Intra-patient variation in skin thickness was much less than inter-patient variation in skin thickness (coefficient of variation 6.4% vs. 18.2% for the untreated breast; coefficient of variation 13.9% vs. 30.9% for the treated breast). Increasing cutaneous thickness was associated with decreasing cutaneous echodensity. We were unable to derive quantitative estimates of echodensity.

Cutaneous oedema is an important outcome variable following conservative treatment of breast cancer. High-frequency ultrasound is able to quantify this accurately. It can readily detect changes invisible to the naked eye. High-frequency ultrasound should enable the effects of different treatment options (e.g., extent of surgery, radiotherapy, and chemotherapy) on cutaneous oedema to be differentiated and for the time course of oedema to be accurately characterised. §

Research in brief …..

Evidence demonstrates that **embryonic development of the lymph vessel system** is not only from the venous system. German researchers have been able to show that superficial lymphatics develop independently from deep vessels and are derived from mesenchymal lymphangioblasts rather than the veins. Wilting J, et al.: **Lymphangioblast in Embryonic Lymphangiogenesis.** Lymphatic Research and Biology 1, 1, p. 33-40, 2003.

The **role of the lymph vessel system in draining cerebrospinal fluid** has been investigated with the most important extracranial location identified as the nasal submucosa. Hydrocephalus may involve reduced CSF transport to or into extracranial lymphatic absorption sites. Johnston M: **The Importance of Lymphatics in Cerebrospinal Fluid Transport**. Lymphatic Research and Biology 1, 1, p. 41 - 45, 2003.

Errors of volume measurement of the extremities have been investigated using opto-electronic Perometry, tape measurement and water pethysmography. The greatest factor affecting volume error was found to be positioning of the measuring points. Fiscbach J, Hutzschenreuter P: Untersuchungen der Messfehler zur Bestimmung von Evidenz und Validität bei Volumenmessmethoden (**Examination of measurement errors for determination of evidence and validity of volume measurement methods**). LymphForsch 6, 2 p. 83-88, 2002.

Two cases of **Stewart Treves Syndrome** have been described **in patients with primary lymphedema.** They represent an incidence of 0.5% compared to 1% in patients with secondary lymphedema. It was hypothesized that timely treatment of the primary lymphedema with CDT could prevent Stewart-Treves Syndrome.

Herpertz U: Stewart-Treves Syndrom bei pimären Lymphödemen (**Stewart-Treves Syndrome with Primary Lymphedema**). LymphForsch 6, 2, p. 97-100, 2002. §

Conferences and Reviews in 2004

NAVALT Conference & AMM: January 27—29, Dallas, TX, USA. Contact: Bonnie Peterson Tel: 1-888-462-8258 or (303) 702-0557, info@navalt.org

Australasian Lymphology Association: March 26 – 28, Brisbane, QLD, Australia. Contact: info@eventsrus.com.au or Tel: (61) 7 3634 9999.

National Lymphedema Network Conference: New Frontiers in Lymphedema Research and Therapy: October 20 – 24, Reno, Nevada, USA. Contact: conference2004@lymphnet.org or Tel: (510) 208-3200

LANA Exam: April 19—May 08 and September 27— October 16

Reviews:

Dallas. TX, USA Jan 30—Feb 01

Adelaide, SA, Australia: April 23 – 25

Stowe, VT, USA: June 04 – 06

Walchsee, Austria: July 12 – 16 (half days)

Victoria, BC, Canada: July 30 – August 01

Virginia Beach, VA, USA: September 19 – 21

Administration

The Dr. Vodder School welcomes our latest addition to the team, Nadine Barath who is our part-time administrator, along with Shannon MacGregor. Please say hello to Nadine if you are calling the office.

Nadine Barath—Admin Assistant

Shannon MacGregor—Administrator

Robert Harris—Director