



Lymphedema- A common problem without an easy solution
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Case: Mrs. W is a forty-year-old white female with a past medical history significant for left sided infiltrating ductal carcinoma. She underwent left modified radical mastectomy with axillary lymph node dissection, adjuvant chemotherapy with TAC and radiation. I was asked to see her by her oncologist earlier this month for pain. Mrs. W has had diffuse “body pain” since her chemotherapy, a shooting pain over her scar and additionally she has particular pain in her left arm where she has lymphedema. The patient describes this pain as a constant ten out of ten. The patient reports that the pain is a combination of all descriptors- e.g. sharp, achy, and burning. It is worse if her swelling increases, and worse by the end of the day. She wears a lymphedema sleeve during the day, which she reports seems to add to her pain by the end of the day. She also uses a Flexitouch® machine at night. She reports that this causes a “horrible pain” that brings tears to her eyes. She has been on hydrocodone/acetaminophen and hydromorphone for pain without much improvement. Her physical exam is remarkable only for lymphedema of the left arm and chest wall and dysesthesia surrounding her mastectomy scar. She has had imaging to look for recurrence, especially brachial plexus recurrence, which was negative.

Discussion: Mrs. W is not alone in her suffering from lymphedema. Patients treated for breast cancer make up the majority of patients with secondary lymphedema in developed countries. Studies vary, but in general the incidence of lymphedema after breast surgery is 20-25%. The incidence of lymphedema varies significantly based on the lymph node procedure that is performed with axillary lymph node dissection (ALND) causing more lymphedema. Axillary radiation therapy adds to the incidence of lymphedema with data showing that up to 55% of women who undergo both ALND and axillary RT develop lymphedema.

The incidence of lymphedema increases over time, with the vast majority developing within 4 years, as a result of chronic inflammatory changes which lead to subcutaneous and lymph vessel fibrosis. Data show that post-operative infection, higher body mass index and higher level of hand use (occupation, hobbies etc.) are risk factors for the development and severity of lymphedema.

Aside from use of sentinel lymph node biopsy, advanced radiation techniques and other newer technologies to evaluate axillary lymph nodes, there are few options for primary prevention of lymphedema. There is a growing body of evidence around the safety and efficacy of early (after ALND) physiotherapy (manual lymph drainage, massage of scar tissue, and progressive active and action assisted shoulder exercises). Weight lifting and resistance exercises are advised against. Unfortunately, there is not rigorous data on means of secondary prevention. Experts say that it is still reasonable to counsel patients to try to: 1. Avoid infection with meticulous skin hygiene and nail care. 2. Avoid maintaining the limb in a gravity-dependent position for long periods of time 3. Avoid tight fitting clothes that may have a tourniquet effect. 4. Avoid medical procedures (injection, venipuncture, blood pressures) in the affected limb 5. Avoid local application of heat to the limb and 6. Attempt to maintain ideal body weight.

Multiple studies have shown significant morbidity associated with breast cancer associated lymphedema. Data show a large proportion of women report decreased physical functioning and psychological distress from their lymphedema. Women reported pain, decreased range of motion, numbness and weakness in the affected limb. Depression, anxiety, social avoidance, sexual dysfunction, and exacerbation of existing psychiatric illness have been described.

Given the associated morbidity, it is particularly unfortunate that lymphedema can be very difficult to treat.

For palliative care consultations please contact the Palliative Care Program at PUH/MUH, 647-7243, beeper 8511, Shadyside Dept. of Medical Ethics and Palliative Care, beeper 412-647-7243 pager # 8513 or call 412-623-3008, Perioperative/ Trauma Pain 647-7243, beeper 7246, UPCI Cancer Pain Service, beeper 644-1724, Interventional Pain 784-4000, Magee Women's Hospital, beeper 412-647-7243 pager #: 8510, VA Palliative Care Program, 688-6178, beeper 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore, and Children's page 958-3844. With comments about “Case of the Month” call David Barnard at 647-5701.



Newer data are showing that diagnosing and treating lymphedema earlier may have improved outcomes. Measuring limb circumference and/or volume is a common method to monitor progress of therapy. There are no pharmacologic treatments that have been shown to be of benefit for lymphedema. There is little evidence and seemingly little efficacy to interventions such as surgery, lymphatic microsurgery and low-level laser therapy. There are multiple non-pharmacologic therapies that can be helpful, including complete decongestive therapy (CDT) that has been shown to improve edema, pain, quality of life and grip strength. CDT is a multicomponent program that is carried out in phases- a treatment and a maintenance phase. CDT requires physicians, physical therapists and nurses to be trained in its techniques, which limits its availability. The first, or treatment phase of CDT involves detailed skin and nail care, therapeutic exercise, manual lymph drainage (a massage-like technique used to promote and recruit pathways for lymph drainage), and limb compression using repetitively applied, multilayered padding materials and short-stretch bandages (worn 24 hours a day during this phase). Patients have therapy 5 days per week and weekly limb measurements to see if improvement has plateaued. This phase usually takes two to four weeks. This is followed by a maintenance phase, implemented to preserve gains made in the treatment phase. This phase involves compression garments worn during the day, and as needed self-compression bandaging at night, along with as needed manual lymph drainage, skin care and exercises. Limbs should be measured every three to six months and compression garments refitted. Maintenance takes discipline on the part of the patient. Intermittent or sequential pneumatic compression is a form of compression therapy utilizing a plastic sleeve or stocking that contains a series of chambers, which are intermittently inflated, usually in a distal-to-proximal direction over the affected limb. It has some data showing efficacy when added to CDT. There is also emerging data on aqua lymphatic therapy.

Lymphedema imposes significant burden to many people treated for breast cancer. It is difficult to treat and requires a multidisciplinary approach.

References:

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