

## **MAINTAINING COSMETIC INTEGRITY FOR WOMEN WITH BREAST CANCER**

Dr. Stanley H. Kornhauser in an interview with Dr. Gil Lederman regarding the treatment of women, with breast cancer and the advances made in, maintaining cosmetic integrity.

**Dr. Kornhauser:** *There seems to have been a revolution in the treatment of women with breast cancer.*

**Dr. Lederman:** That is correct. In the past, mastectomy was the mainstay of therapy. Today, biopsy serves as the preliminary method of diagnosis before treatment may be turned over to others.

**Dr. Kornhauser:** *Who are the "others"?*

**Dr. Lederman:** They are radiation oncologists and medical oncologists. Radiation oncologists most often are called to see the woman with breast cancer in an attempt to maintain the woman's breast while ensuring she receives effective local/regional care. The medical oncologist is the one who may deliver systemic therapy, if indicated.

**Dr. Kornhauser:** *Life seems more complex for those with breast cancer than in previous years.*

**Dr. Lederman:** It certainly is. There are more treatment options than in the past when mastectomy was most common. In fact, for those with breast cancer, it is metastases, recurrence and mastectomy (in that order) that are the three items we fight most. Prevention is a major cause of concern. Of course, some women need mastectomy, but these are few in proportion to those who have had mastectomy in the past.

**Dr. Kornhauser:** *For whom is a mastectomy indicated?*

**Dr. Lederman:** An absolute indication for mastectomy is diffuse carcinoma throughout the breast. In this setting, simple removal of the lump of cancer - so called lumpectomy - is not feasible. However, women with such extensive cancer are seen infrequently today.

**Dr. Kornhauser:** *Why is that?*

**Dr. Lederman:** Most women are performing self-examination and often obtaining what should be annual mammographies. Additionally, physician examination is crucial. For the woman who performs self-examination, has routine medical examinations and undergoes annual mammography, the likelihood of finding a cancer (if one should occur) would be at an earlier stage than ever before.

**Dr. Kornhauser:** *Is mammography enough?*

**Dr. Lederman:** Absolutely not. Self and physician examinations are crucial. About 10% to 20% of breast cancers cannot be detected on mammography. No one should rest assured that a mammogram is adequate. If a woman finds a breast lump, it should be thoroughly investigated.

**Dr. Kornhauser:** *That all sounds rather ominous.*

**Dr. Lederman:** It really is not. Eighty percent of breast lumps turn out to be benign when biopsy tissue is examined under the microscope. Nevertheless, this procedure must take place in an attempt to avoid invasive or metastatic cancer.

**Dr. Kornhauser:** *Are there new techniques for performing biopsy?*

**Dr. Lederman:** Yes. Stereotactic biopsy often allows evaluation of mammographic lesions without an incision.

**Dr. Kornhauser:** *For those women with breast cancer, how is therapy dictated?*

**Dr. Lederman:** For women with localized cancer - meaning cancer confined to one area of the breast - the removal of that lump of cancer by lumpectomy is performed. For invasive cancers, evaluation of the lymph nodes is undertaken to determine whether the cancer has spread or metastasized to the regional area. Other tests to adequately determine the extent of disease (called "staging") include a complete physical examination, chest x-ray, blood tests, and bone scan.

**Dr. Kornhauser:** *Who decides the options available to an individual patient?*

**Dr. Lederman:** The options are explained by the physicians. It is often helpful to have a surgeon, radiation oncologist and medical oncologist involved in the discussion early to best guide patients. Just like different schools of art have developed different styles of painting, so too do different schools of medicine tend to make certain recommendations.

**Dr. Kornhauser:** *You mean all physicians wouldn't recommend the same treatment?*

**Dr. Lederman:** Absolutely not. In 1987, about 80% of women with breast cancer at Harvard Medical School underwent lumpectomy and radiation. This compared to 97% of women having mastectomy at a major cancer center nearby. Thus, I was quite taken aback by the local differences in making recommendations to women. No one believes that women in Boston are different than women in New York. Indeed, at Harvard Medical School, we had many women flying in daily for sophisticated breast radiation in an attempt to avoid mastectomy. Fortunately, this is no longer necessary. The guiding light is to offer lumpectomy and radiation when appropriate.

**Dr. Kornhauser:** *What does "when appropriate" mean?*

**Dr. Lederman:** We inform our patients of the major American and international studies that have been undertaken. These studies have compared outcomes of women with lumpectomy alone, lumpectomy and radiation, as well as mastectomy for care of breast cancer. Studies have shown local failure is high after lumpectomy alone. Survival is equivalent in those women undergoing lumpectomy and radiation as compared to mastectomy.

**Dr. Kornhauser:** *What are the advantages, besides medical survival, to women having lumpectomy and radiation compared to mastectomy?*

**Dr. Lederman:** For the woman who undergoes lumpectomy and radiation, there is not that constant reminder of the cancer as the mastectomy. I believe that psychologically, women adjust better to life after breast cancer when lumpectomy and radiation have been performed compared to mastectomy.

**Dr. Kornhauser:** *Is removing the lump of cancer only adequate for women with localized breast cancer?*

**Dr. Lederman:** There is a high rate of local recurrence, that is to say return of the cancer to the breast, after lumpectomy only. It is an issue that has been evaluated in the past. Current recommendations are to perform the best therapy to maintain cosmetic integrity, as well as leave the patient free of cancer with the least likelihood of recurrence. We evaluate the pathology carefully to confirm that all known cancer is removed.

**Dr. Kornhauser:** *What are the factors involved in obtaining the best cosmetic result after lumpectomy and radiation?*

**Dr. Lederman:** There are multiple factors including the extent of surgery, the placement of incision and the experience and equipment of the radiation oncologist.

**Dr. Kornhauser:** *Is more or less surgery better for obtaining a good cosmetic outcome?*

**Dr. Lederman:** In a recently published analysis by Sacchini et al, 148 patients were evaluated for cosmetic outcome. About one-half of the women had removal of the lump of cancer, while the remainder had more extensive surgery (removing a quadrant of the breast). The authors undertook a cosmetic analysis of the patients. Additionally, women were asked to describe their own view of the cosmetic results. The authors reported that there were "better results" in women who had the lesser surgical procedure. The authors noted, "The results show that the extent of surgical resection is an important factor in the production of breast asymmetry after conservative treatment for breast cancer. Wider breast resection, as in quadrantectomy, was shown in our study to result in greater breast deformity."

**Dr. Kornhauser:** *What type of deformity was seen in women having the greater surgical procedure?*

**Dr. Lederman:** The two major types of deformity were displacement of the nipple and alteration in the contour of the breast.

**Dr. Kornhauser:** *What about radiation and cosmetic outcome?*

**Dr. Lederman:** We know that greater radiation dose produces a less ideal outcome. It is for that reason that the Harvard Medical School-style doses are used by our physicians. Patients receive a moderate dose to the breast and, when appropriate, a boost dose to the area of the tumor bed. Studies have shown that the most likely site of cancer recurrence is the tumor bed and that is why higher (boost) doses are used in that area.

**Dr. Kornhauser:** *What about equipment and outcome?*

**Dr. Lederman:** We know that sophisticated treatment planning and linear accelerators are crucial for good cosmetic outcomes. For example, we have a medical physics and sophisticated treatment planning equipment is utilized for every patient, including those undergoing post-lumpectomy radiation.

**Dr. Kornhauser:** *Do other studies elaborate on the cosmetic results after lumpectomy?*

**Dr. Lederman:** Yes. Water et al evaluated 234 women with localized breast cancer undergoing lumpectomy and radiation. Their study showed that more than 85% of women treated in this fashion have good or excellent cosmetic results. In this group were women whose cancer was

located under the nipple or areolar complex. While removal of the nipple or areolar complex was often necessary, this treatment allowed women to maintain their own breast.

**Dr. Kornhauser: *How do you compare reconstruction to one's own breast?***

**Dr. Lederman:** Reconstruction does not offer the sensation or appearance of a normal breast. Furthermore, reconstruction often requires multiple surgical procedures not only to the involved side, but often to the opposite breast in order to develop a degree of symmetry. We strongly believe that if maintenance of one's own breast is possible, it is optimal.

**Dr. Kornhauser: *How does axillary dissection interact in breast cosmetics?***

**Dr. Lederman:** Studies have shown that the more extensive the axillary dissection, the more likely there will be arm and breast swelling.

**Dr. Kornhauser: *Does Tamoxifen or chemotherapy impact on breast cosmetics?***

**Dr. Lederman:** The role of chemotherapy is controversial. Some have suggested that the use of Tamoxifen may interfere with aesthetic outcome.

**Dr. Kornhauser: *Does radiation interact with the underlying lung?***

**Dr. Lederman:** It is exceedingly unusual for radiation pneumonitis to occur. Currently, it is nearly never seen.

**Dr. Kornhauser: *What about cosmetic results for women with large breasts?***

**Dr. Lederman:** A study by Gray et al evaluated women weighing more than 176 lbs., having a bra size of greater than or equal to 40 inches or a cup size greater than or equal to 'D', and a technical component of a separation of the radiation beams of greater than 23 centimeters. These parameters include women with what would be considered large breasts. The researchers felt that the magnitude of the cosmetic difference was modest after lumpectomy/radiation and suggested that breast-conserving therapy should certainly be offered. The authors wrote, "The difference between the large group and the average group is not great and should not exclude these women from consideration for breast-conservation techniques. The alternative option of mastectomy creates a significant asymmetry in these patients. In most cases of reconstruction, contralateral reduction is also required to restore symmetry. Local excision and primary breast radiation with its associated cosmetic outcome must therefore be evaluated in light of the potential for two or even three operative procedures in order to restore acceptable contour. Large women should not be denied this option."

**Dr. Kornhauser: *Thus, lumpectomy and radiation work for women with breasts of any size.***

**Dr. Lederman:** Generally, that is correct. The old arguments that one's breasts are too small or too large for lumpectomy and radiation are not correct.

**Dr. Kornhauser: *What about the question of the size of one's breast cancer and lumpectomy?***

**Dr. Lederman:** Surgeons are becoming more adept in their ability to resect the tumor and minimize the normal surrounding tissues being removed. This enlarges the group of women with breast cancer who can maintain their breasts. In some cases, chemotherapy is utilized prior to lumpectomy to decrease the cancer's size.

**Dr. Kornhauser: *Can you elaborate on the chemotherapy impact for these women choosing to maintain their breast?***

**Dr. Lederman:** A recent study by Abner et al showed that the cosmetic outcome was affected by chemotherapy, and that an excellent outcome was more likely to be had by women undergoing sequential, not concurrent, chemotherapy/radiation .

**Dr. Kornhauser: *Did the type of chemotherapy matter?***

**Dr. Lederman:** Administration of sequential CMF (Cytosin, Methotrexate, 5-FU) followed by radiation had better results than combining the chemotherapy and radiation simultaneously. It should be noted that radiation given sequentially with Doxorubicin resulted in cosmetic results like sequential CMF and radiation.

**Dr. Kornhauser: *So what are the most important factors for a good cosmetic outcome?***

**Dr. Lederman:** The size of the tumor and the size of the breast, as well as the amount of surgical removal of breast tissue. A woman with a small breast cancer might have, unknowingly, removal of a large amount of breast tissue. If substance has been removed from the breast, then it will result in a less symmetric outcome. We advocate removing the lump of cancer while maintaining as much of the normal breast as feasible.

**Dr. Kornhauser: *What about radiation and outcome?***

**Dr. Lederman:** External beam radiation therapy techniques are certainly important.

**Dr. Kornhauser: *Are there important questions that women should ask about their care before commencing therapy?***

**Dr. Lederman:** Of course. There are differences in technique and equipment and these should be explained. Also, timing and dosage are crucial.

**Dr. Kornhauser: *What about the woman who can't decide between mastectomy and lumpectomy/radiation?***

**Dr. Lederman:** I strongly believe that women should be given as many of the facts as possible on which to base a decision. Most women choose lumpectomy and radiation without actually knowing the cosmetic differences. The options are basically cosmetic, and therefore viewing photographs of the different treatment outcomes is essential.