Breast Cancer Care and Research Group

Monica Morrow, M.D., *Senior Member, Chairman of Surgical Oncology, G. Willing "Wing" Pepper Chair in Cancer Research*
Michael H. Torosian, M.D., *Member, Clinical Director of Breast Surgery Research, Program Director of Surgical Oncology Fellowship*
John P. Hoffman, M.D., *Senior Member, Attending Surgeon*
Elin R. Sigurdson, M.D., Ph.D., *Senior Member, Attending Surgeon*
Lydia Giles, R.N., *Study Coordinator*
Mary O'Brien, *Medical Secretary*

***Collaborating Researchers*:**

Jose Russo, M.D., *Senior Member, Department of Pathology*
Gary M. Freedman, M.D., *Member, Department of Radiation Oncology*
Lori J. Goldstein, M.D., *Member, Department of Medical Oncology*
Irma Russo, M.D., *Member, Department of Pathology*
Penny R. Anderson, M.D., *Associate Member, Department of Radiation Oncology*
Ramona F. Swaby, M.D., *Associate Member, Department of Medical Oncology*
Joanne F. Dorgan, M.P.H., Ph.D., *Member, Division of Population Science*

The Department of Surgical Oncology Breast Cancer Care and Research continues to be involved in a wide range of clinical, educational, and translational research activities to improve our understanding and treatment of women with breast cancer. Department members collaborate with colleagues in medical oncology and radiation oncology to offer state of the art treatment options in the multidisciplinary Breast Evaluation Clinic. To facilitate appropriate triage and management of women with abnormal mammograms and newly diagnosed cancer, a nurse practitioner will join the program in 2006. The first breast fellow, Malcolm Kell, MB, Ch.B, FRCS, M.D. completed the FCCC one-year breast fellowship in August 2005, and returned to Dublin to an academic position at Mater Misercordia Hospital. Diane Opatt, M.D., a graduate of Tulane University general surgery residency is the current breast fellow.

M. Morrow continued her collaboration with S. Katz (University of Michigan) on patient and surgeon perspectives on decision making for breast cancer. The study design utilizes a population-based cohort from the Los Angeles and Detroit SEER sites, with oversampling of intraductal carcinoma (DCIS) and African-American women. Seventy percent of the 1,884 patients studied underwent breast conserving therapy (BCT). BCT was the procedure most often recommended by surgeons, but greater patient participation in the decision-making process was associated with greater use of mastectomy. In DCIS patients, surgeon recommendations for mastectomy were associated with larger lesion size and higher grade. Patients with small, low grade DCIS lesions were rarely advised to undergo mastectomy. Fear of recurrence and concerns about radiotherapy were strongly associated with patient choice of mastectomy. Low rates of breast reconstruction were also attributed to patient choice rather than surgeon failure to inform patients about the availability of local therapy. In all areas of local treatment patients perceived that they were well informed, but performed poorly on tests of factual knowledge. These findings indicate that high mastectomy rates are attributable to patient preference rather than surgeon choice and suggest that better ways to communicate the risks and benefits of local therapy are needed.

Evaluation of the surgeon component of this dataset has produced interesting results. The greatest conflicts between surgeons and patients and surgeons and other physicians occur when the surgeon recommends breast conserving therapy but the patient or physician prefers mastectomy. High volume surgeons experience conflict more frequently than their low volume counterparts after a recommendation for breast conserving treatment, but no relationship between volume, conflict and mastectomy recommendations was observed.

M. Morrow and S. Miller[§] are collaborating on a study to evaluate the importance of baseline physiological characteristics on the decision-making process and to develop a targeted intervention to improve patient understanding of treatment decision making.

In collaboration with investigators at Northwestern University, Morrow is examining the effect of menstrual cycle variation on breast density and the effect of tamoxifen-induced changes in salivary sex steroids on breast density. Baseline studies established a high degree of variation in salivary sex steroid levels in women in their 40's between menstrual cycles, indicating that studies which rely on patient recall of menstrual cycle dates have a high degree of inaccuracy. As a follow-up study, 71 healthy women ages 29–49 underwent 3 digital mammograms over a 14 month period with measurement of salivary sex steroids during the months the mammograms were obtained to determine if significant differences in mammographic density occur between the follicular and the luteal phases of the menstrual cycle. Breast density did not correlate with mean or total estradiol or progesterone exposure during the menstrual cycle. The variation in density between the follicular and luteal phases was significantly different from the variation in density observed in mammograms taken in the luteal or follicular phases of different cycles, with increased density observed in the luteal phase. This finding suggests that scheduling of mammograms during the follicular phase of the menstrual cycle may improve performance. The effect of tamoxifen induced changes in salivary sex steroids was also examined. At baseline, no correlation was observed between breast density and mean or total estradiol (E2) or progesterone (P) (n=108). After 6 months of tamoxifen (n=38), mean E2 increased by 8.9 pg/ml, but changes in E2 did not correlate with changes in density. However, changes in P were highly correlated with changes in density. Eleven subjects had a decrease in breast density, and in these women, mean P decreased by 47 pg/ml. In those with no changes in density (n=22), mean P decreased by 8.7 pg/ml, while in the 5 women with increased density, P increased by 82.4 pg/ml (p-.01). There was no correlation between changes in E2 and P, and further density changes were not observed between 6 and 12 months. These findings are consistent with observations of the effect of combined hormone replacement therapy on breast density, and suggest that changes in salivary P may be a surrogate marker for the effect of tamoxifen on breast density which can be measured early in the course of treatment.

Publications

Chatterton, R.T., Mateo, E.T., Hou, N., Rademaker, A.W., Acharya, S., Jordan, V.C., Morrow, M. Characteristics of salivary profiles of oestradiol and progesterone in premenopausal women. *J. Endocrinol.* **186**:77-84, 2005.

Davidson, N.E., Morrow, M., Kopans, D.B., Koerner, F.C. A 56-year-old woman with breast cancer and isolated tumor cells in a sentinel node. *N. Engl. J. Med.* **353**:67-75, 2005.

Davidson, N.E., Morrow, M. Sometimes a great notion – an assessment of neoadjuvant systemic therapy for breast cancer. *J. Natl. Cancer Inst.* **97**:159-161, 2005.

Gorla, S., Hou, N., Acharya, S., Rademaker, A., Staradub, V., Khan, S., Morrow, M. A model to predict the development of hormone sensitive breast cancer. *Ann. Surg. Oncol.* **12**:48-56, 2005.

Janz, N.K., Mujahid, M., Lantz, P.M., Fagerlin, A., Salem, B., Morrow, M., Deapen, D., Katz, S.J. Population based study of the relationship of treatment and sociodemographics on quality of life for early stage breast cancer. *QOL Res.* **14**:1467-1479, 2005.

Kell, M., Morrow, M. An adequate margin of excision in ductal carcinoma in situ. *BMJ* **331**:789-790, 2005.

Khan, S.A., Wolfman, J.A., Segal, L., Benjamin, S., Nayar, R., Wiley, E.L., Bryk, M., Morrow, M. Ductal lavage findings in women with mammographic microcalcifications undergoing biopsy. *Ann. Surg. Oncol.* **12**(9):689-696, 2005.

Katz, S.J., Lantz, P.M., Janz, N.K., Fagerlin, A., Schwartz, K., Liu, L., Salem, B., Lakhani, I., Morrow, M. Patient involvement in surgery treatment decisions for breast cancer. *J. Clin. Oncol.* **23**:5526-5533, 2005.

Katz, S.J., Lantz, P.M., Janz, N.K., Fagerlin, A., Schwartz, K., Liu, L., Deapen, D., Salem, B., Lakhani, I., Morrow, M. Patterns and correlates of local therapy for women with ductal carcinoma in situ. *J. Clin. Oncol.* **23**:3001-3007, 2005.

Katz, S.J., Lantz, P.M., Janz, N.K., Fagerlin, A., Schwartz, K., Liu, L., Deapen, D., Salem, B., Lakhani, I., Morrow, M. Surgeon perspectives on local therapy for breast cancer. *Cancer* **104**:1854-1861, 2005.

Moncrief, R.M., Nayar, R., Diaz, L.K., Staradub, V.L., Morrow, M., Khan, S.A. A comparison of ductoscopy-guided and conventional surgical excision in women with spontaneous nipple discharge. *Ann. Surg.* **241**:575-581, 2005.

Morrow, M. Limiting breast surgery to the proper minimum. *The Breast* **14**(6):523-526, 2005.

Morrow, M., Mahasin, M., Lantz, P.M., Janz, N.K., Fagerlin, A., Schwartz, K., Liu, L., Deapen, D., Salem, B., Lakhani, I., Katz, S.J. Correlates of breast reconstruction: Results from a population-based study. *Cancer* **104**:2340-2346, 2005.

Morrow M. Magnetic resonance imaging in breast cancer: Is seeing always believing? *Eur. J. Cancer* **41**:1368-1369, 2005.

Mullenix, P.S., Brown, T.A., Meyers, M.O., Giles, L.R., Sigurdson, E.R., Boraas, M.C., Hoffman, J.P., Eisenberg, B.L., Torosian, M.H. The association of cytokeratin-only-positive sentinel lymph nodes and subsequent metastases in breast cancer. *Am. J Surg.* **189**:606-609, 2005.

Nakhlis, F., Lazarus, L., Hou, N., Acharya, S., Khan, S., Staradub, V., Rademaker, A.W., Morrow, M. Tamoxifen utilization in patients with ductal carcinoma in situ and T1a/b N0 invasive carcinoma. *J. Am. Coll. Surg.* **201**:688-694, 2005.

O'Regan, R.M., Von Roenn, J.H., Carlson, R.W., Malik, U., Sparano, J.A., Staradub, V., Khan, S., Jovanovic, B., Morrow, M., Gradishar, W.J. Final results of a phase II trial of preoperative TAC (Docetaxel/Doxorubicin/ Cyclophosphamide) in Stage III breast cancer. *Clin. Breast Cancer* **6**:163-168, 2005.

Posther, K.E., McCall, L.M., Wilke, L.G., Blumencranz, P., Burak, W., Beitsch, P., Hansen, N., Morrow, M., Herndon, J.E., Hunt, K.K., Giuliano, A.E. Sentinel node skills verification and surgeon performance: Data from a multicenter clinical trial for early stage breast cancer. *Ann. Surg.* **242**:593-599, 2005.