Sharon Smith

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To: Dr. Joy McCarthy; Sharon Smith; Dr. Jonathan Greenland; Dr. Brent Tompkins
Attachments: Yourpathyourbreastcancer05 bc.doc

Morning
Kara brought a patient pamphlet about breast cancer pathology to our ER meeting last night. The attached is an article I wrote for a breast cancer e-publication and have slowly been editing to a user friendly pamphlet. I think it would be perfect for our patients.Still needs some editing as well as simplification of language- but if I can get some clerical/graphic support this is almost ready to go. Can you read please and offer corrections? Can I get someone to provide the clerical/technical support I need?
merci

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Your Pathologist and Your Breast Cancer

If your doctor is concerned that you may have breast cancer, a biopsy is usually performed. Once the tissue is removed from your body, your doctor will send it to a pathologist, an expert in diagnostic oncology. Some pathologists have extra training (fellowship) in specialty areas of pathology such as breast cancer.
What the pathologist discovers about your tissue forms the cornerstone of your treatment and prognosis. Obtaining the best pathological examination of your tissue and understanding your pathology report therefore are important steps in your cancer journey.

What Happens to your Breast Biopsy / Lumpectomy / Mastectomy specimen in Pathology?
As soon as your breast tissue arrives in the pathology lab, your specimen is assigned a pathology number so we can keep track of it.

Examination is done within a few hours of receiving your specimen. A pathologist will examine your tissue, measure its size, describe it color and texture, and determine if any other masses are present. If so, the size of the mass and its distance to the specimen's edge (the margin where the surgeon cut) will be recorded. The pathologist then sections the specimen into thin slices with a scalpel and further examines the slices. Representative pieces of the tissue and its masses are put into small containers called cassettes.

In order to make microscopic slides, the tissue in the cassettes must be adequately treated in formalin, a fixative that hardens the tissue and prevents the cellular proteins from breaking down. Breast cases are usually fixed for 24 hours. After the tissue is hardened by fixation it is placed in a Tissue Processing Machine. The processed tissue is then placed in hot wax to form a tissue block. When the block hardens, it is stable at room temperature forever. A thin section of tissue is cut from each block using a microtome (a cutting instrument), and stained with special dyes. The slides are now ready to be examined by the pathologist under the microscope.

Your tissue blocks are filed and saved for a long time in the pathology department. This makes it possible to make a duplicate set of slides if you wish to have your pathology evaluated at another hospital, or if a new test or technological discovery comes along that would affect your breast cancer treatment in the future we can test your stored tissue blocks.

Pathologist's Diagnosis:

The pathologist receives all of the slides corresponding to blocks that he/she made the day before along with a typed note of his/her gross findings, and a code as to from where each section was taken. The pathologist reviews the slides, correlates the microscopic findings with the gross findings, and makes a pathology report. Prognostic factors of your breast cancer, such as size of tumor, margin status, grade of tumor, subtype of tumor and lymph node status are decided by the pathologist and will be included in the report. These factors are used by your oncologist to determine the likelihood of cancer recurrence.

The pathologist also determines predictive factors, which help determine if you are likely to respond to certain drugs such as Tamoxifen or Herceptin. The pathologist will choose a block on which immunohistochemical stains for breast cancer markers (e.g. ER, PR, and Her/2 neu) will be performed.

It may take up to one week for your pathologist to complete a report. Remember, your pathologist is deciding important information and some tests take time, so be patient.

Always ask for a copy of your pathology report. Review it yourself and then review it with your primary oncologist. Remember not to focus on only one aspect of the report, all of the information provided is important and it all acts together to create a unique profile (yours!).

If you would like your pathology report explained, desire a second opinion on your pathology diagnosis, or would like to speak to a pathologist, notify your primary caregiver

Your report should include the following:

Confirmation that cancer is present: Many non-cancerous conditions can look like cancer on mammography or breast exam.

Whether the cancer remains inside the duct system (In-situ) or has spread outside (Invasive carcinoma): In general, in-situ cancer has a better outcome than invasive and is treated quite differently.

The size of the cancer: An accurate measurement gives the oncologist important information about the stage of your cancer. In general, the smaller the size the better the prognosis. But remember not to focus on only aspect of the report – some small tumours can be high grade and aggressive.

The grade of the cancer: Using a formalized set of objective criteria, pathologists determine whether the cancer is low-grade (looks like normal breast tissue and is slow growing), intermediate grade or high grade (looks nothing like breast tissue and is fast growing).

The subtype of cancer: Certain subtypes of cancer (e.g. Tubular) do much better than others (e.g. No special type).

If the surgery successfully removed enough tissue: Your surgeon has attempted to get a clean margin of tissue around your cancer. Sometimes this can be quite difficult. Your pathologist determines whether the margin is positive for cancer (you may need more surgery), negative with a wide margin of normal tissue (no further surgery) or negative but without a wide margin of normal tissue (further surgery being dependent on many other factors).

An accurate estimation of the number of lymph nodes removed by the surgeon and the number that are involved by cancer: Patients with no tumour in lymph nodes generally do better than those with positive lymph nodes.

Estrogen Receptor (ER) and Progesterone Receptor (PR): Normal breast epithelium usually expresses estrogen and progesterone receptors. Binding of estrogen or progesterone to these receptors stimulates normal cells to divide. In breast cancers, these are weak favorable prognostic factors, so tumours that express estrogen and progesterone receptors generally have a better prognosis than those that do not. However, expression of estrogen and progesterone receptors are strong predictive factors, in that their presence predicts response to hormone therapy, such as Tamoxifen or Aromatase Ihibitors.

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Involvement of lymph or blood vessels: This may be seen in patients with no positive lymph nodes; however, this suggests that the cancer is on its way to spreading outside the breast.

Her2/neu status: This oncogene (cancer gene) is amplified (more copies of its DNA are present) and over expressed in approximately 25% of human breast carcinomas. Amplification is a poor prognostic factor. Amplification of Her 2/neu does predict response to therapy with Herceptin, the humanized anti-Her2/neu antibody.

Conclusion:

Like all of your doctors, your pathologist is working for you! The information provided by your pathology is essential in deciding your treatment and prognosis. Be sure to demand an excellent pathological examination and report and make sure you understand all aspects of the process. Do not hesitate to ask to discuss the findings with your pathologist if you feel uncertain about the report.

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