

Abortion and Breast Cancer

Cell and Breast Biology: Every cell in the human body contains the same DNA, the substance which contains all the genetic information inherited from the parents. Normal cells are programmed to have a fixed lifetime, that is, they can only reproduce a fixed number of times before they die. Cancer cells have been changed so that they are no longer subject to that control. They also have the ability to spread into other parts of the body, or metastasizing. Cancer can be caused by mutations, or changes to the DNA, which happen during the process of replication, so the more often a cell replicates, the greater the risk of developing cancer.

Breasts are composed of milk glands, or lobules, which produce milk, and supportive tissue of fat and connective tissue. Before puberty, the lobules are immature, Type 1 lobules. At puberty, some of the type 1 lobules mature into Type 2. After 32 weeks of pregnancy, breast lobules mature into Type 3 lobules, to prepare for the production of milk at birth. After birth, the final maturation to Type 4, lobules that are actually producing colostrum or milk, occurs. Type 3 and Type 4 lobules are more resistant to the formation of cancer than Type 1 or Type 2 lobules.

Estrogen, the female hormone, acts to stimulate cell division in the breast. Since the risk of mutation increases with more cell division, longer exposure to estrogen increases the risk of breast cancer. Another chemical, which is formed as estrogen is broken down in the body, can cause damage to the DNA, again increasing the risk of cancer. Therefore, women who enter puberty early, and experience menopause late in life, especially if they do not have children, are at greater risk for breast cancer, because they are exposed to higher levels of the hormone for a longer time. The use of artificial contraception or hormone replacement therapy containing estrogen also increases exposure to estrogen and hence the risk of breast cancer.

Pregnancy, Abortion, and Breast Cancer: When a woman becomes pregnant, estrogen levels rise 2,000% by the end of the 1st trimester. During the first and second trimesters, the breast grow (and become tender) as the number of Type 1 and Type 2 lobules increase. During the 3rd trimester, growth stops and the lobules mature into Type 3 lobules. Most miscarriages occur during the first trimester and are associated with lower than normal levels of estrogen. Many times, women who miscarry early in pregnancy will say that they never “felt pregnant” because they did not experience the breast tenderness or nausea associated with the high levels of estrogen. These low-estrogen pregnancies which terminate in spontaneous miscarriage do not increase risk of breast cancer. Second trimester miscarriages, however, or premature deliveries before 32 weeks, can increase risk.

A normal pregnancy terminated by abortion increases the risk of breast cancer because the exposure to estrogen has caused an increase in the numbers of Type 1 and Type 2 lobules in her breasts. That is, her breasts now have more places for cancer to start than before she got pregnant. The longer the pregnancy continued before the abortion (as long as the abortion was before the 3rd trimester), the greater the risk. If her pregnancy had continued, these lobules would have eventually matured into Type 3 and Type 4 lobules, which are cancer resistant. The risk is especially great for teenagers who have an abortion in the late 1st or 2nd trimester, and for those women who never have a child, since their breasts never completely mature. Abortion also increases the risk of a future premature birth (before 32 weeks), which would again increase risk of breast cancer, as well as present a significant risk to the child.

Other factors: Several other factors also affect the risk of breast cancer. Family history may be an indication that a woman carries a gene making her more susceptible to breast cancer. In one study, all 12 women, who both had a family history of the disease and had an abortion as a teenager, developed breast cancer by the age of 45. This does not mean that every teenager with a family history of breast cancer who has an abortion will get the disease, but it does show a high risk. The liver normally metabolizes estrogen into an inactive form. Alcohol, which damages the liver, will increase risk of breast cancer, because less estrogen is metabolized. Cigarette smoke contains chemicals that can cause lung, breast, and other cancers. Radiation also increases risk, but the amount of radiation used for mammograms is so low that it would take 400 mammograms to cause an increase in risk.

Cruciferous vegetables (broccoli, Brussel sprouts) can decrease the risk of breast cancer by causing estrogen to be changed to an inactive form. Omega-3 fatty acids also seem to decrease risk of breast

cancer, although the mechanism is unknown. Phytoestrogens (plant estrogens) may block estrogen receptors, to decrease the effect of estrogen exposure and decrease risk of breast cancer.

Reference:

Angela Lanfranchi, M.D., F.A.C.S. and Joel Brind, Ph. D., *Breast Cancer Risks and Prevention*, 2005, Breast Cancer Prevention Institute. This booklet is available online at www.bcpinstitute.org. (Retrieved November 23, 2010.)

Compiled by Christian Voices for Life of Fort Bend County, www.ChristianVoicesForLife.org