

## ***Overview: Breast Cancer and Abortion***

***Q-A: Why would a woman who has an induced abortion before her first full-term pregnancy (FFTP) suffer an increased risk of developing breast cancer?***

A woman's breast is especially sensitive to carcinogenic (ie, cancer producing) influences before she delivers her first child. When a woman becomes pregnant, a number of hormone levels increase dramatically in her body. Three especially notable ones are estradiol, progesterone (ie, the female sexual hormones), and hCG (human Chorionic Gonadotropin). All of these hormones, especially the latter, serve to stimulate immature breast cells to mature into fully differentiated cells [1]. If this process is artificially interrupted by way of an induced abortion, the hormone levels drop suddenly and dramatically, thereby suspending the natural process of maturation of many of the woman's breast cells. This is referred to as a "hormonal blow" by researchers. These cells are now "vulnerable" to carcinogens because they started the maturation process but were never able to complete it. (Cells that have fully matured are less vulnerable to carcinogens than cells that are in the process of maturation).

***Q-B: Do any animal models support the claim that abortions early in life increase breast cancer risk?***

Yes. Russo and Russo, in their classic work published in 1980 [2], studied several groups of rats which were given a specific carcinogen (cancer producing agent) called DMBA. They noted that 77% of the rats who underwent an abortion developed breast cancer and 69% of the virgin rats developed breast cancer, but 0% of the rats who were allowed to complete their pregnancy developed breast cancer.

***Q-C: Could you tell me about the history of the abortion/breast cancer debate?***

As early as 1957, Segi et al noted that women who had induced abortions had at least a 2-fold increased risk of breast cancer [3]. In 1981, Pike et al [4] published their notable work showing that young women (under the age of 32) who had experienced an abortion before their first full-term pregnancy (FFTP) had a 140% increased risk of breast cancer. A number of studies followed but in 1994, Daling et al [5] published a large study which noted that women who had an abortion before their FFTP suffered a 40% increased risk. This risk increased to 150% if the adolescent had her abortion before the age of 18. In addition, Daling et al noted that if adolescents under the age of 18 aborted a baby that was more than 8 weeks old, *they suffered an 800% increased risk of developing breast cancer.*

Finally, in 1996, in what is openly regarded as the most meticulous and comprehensive meta-analysis (ie, a synthesis of all the major studies done in a particular field concluding in an overall risk for the pooled studies) of all the abortion/breast cancer research articles ever done, Brind et al [6] found *that women who had an abortion before their FFTP had a 50% increased risk of developing breast*

cancer whereas women who had an abortion after their FFTP sustained a 30% increased risk.

**Q-D: If Dr. Brind et al's study was so conclusive, then why is the subject still being debated?**

Because of the controversy regarding abortion, Dr. Brind's study came under intense scrutiny; however, the results seemed irrefutable. Janet Daling — a prominent epidemiologist (a researcher who studies trends in the medical field) — was quoted in the *Wall Street Journal* as stating that Brind et al's results were "very objective and statistically beyond reproach." [7] Then in early 1997, the *New England Journal of Medicine* published the results of a large prospective study by Melbye et al [8] which claimed to show that abortion did not increase the risk of breast cancer.

**Q-E: Was there any problem with the study by Melbye?**

Yes. It is astonishing that the *New England Journal of Medicine* allowed it to be published in its submitted form. It had several glaring problems that have been pointed out in a follow-up letter to the *New England Journal of Medicine* [9]. The main ones include the following: 1) Melbye's data actually pointed to a 44% increased risk of breast cancer due to abortion, *but they never printed this result*; 2) The follow-up period for the "cases" (ie, women who had an induced abortion) *was less than 10 years*, whereas it was over 20 years for the "controls" (ie, women who did not have an induced abortion). *A follow-up period of less than 10 years is not long enough to show the effect of an abortion (ie, too short of a latent period)*; 3) Over 30,000 women in the study who had abortions were "misclassified" as not having them — thus 30,000 women were counted as not having abortions, when in fact they really had abortions; and 4) The study did note that women who had an abortion after the 12th week sustained a 38% increased risk of breast cancer, whereas *women who had late-term abortions (ie, after 18 weeks) had a statistically significant increase of 89%*. Both of these results received little media attention.

**Q-F: Dr. Melbye claimed that his study did not suffer from "recall bias." What did he mean by this?**

Some researchers have claimed that retrospective studies suffer from "recall bias." (An example of a retrospective study is one in which women with breast cancer would be interviewed and asked questions about their risk factors such as family history, induced abortion, etc.) The recall bias hypothesis can be defined as the following: "The hypothesis that people who develop a disease (eg, breast cancer) are more likely than people who do not develop that disease to admit that they participated in a 'controversial risk factor' (eg, an induced abortion or oral contraceptive pill [OCP] use) for that disease." In essence they claim that women who have breast cancer are more likely to be truthful about the fact that they had an induced abortion than women who do not have breast cancer.

**Q-G: On what basis do such researchers make such a claim?**

This *claim* of recall bias is based on a study by Lindefors-Harris et al [10] from Sweden. She compared the responses of "cases" and "controls" to the national register which reportedly keeps an accurate record of all women who had an abortion. The study *claimed* to show that in the group of women who indeed had an

induced abortion (according to the national register), the women who had breast cancer were about 50% more likely to admit that they had the abortion than the women who did not have breast cancer. The study has been criticized by Daling, a prominent epidemiologist, who noted that the study actually showed only a 16% “recall bias” (versus the reported 50% figure), when analyzed properly [5].

***Q-H: Were there any problems with the study?***

Yes. The study noted that 7 out of the group of 26 women with breast cancer who stated that they had an abortion at a young age, actually did not have an abortion according to the national register. This implies that 7 women out of the 26 women, or 27% of these “cases,” stated that they had an abortion at a young age, when they really did not. Obviously, this undermines the credibility of the study. Who would place any confidence in a study in which more than one quarter of a group of women with breast cancer reportedly lied and said they had an abortion when they actually had not?

***Q-I: Is there any way to get around the “recall bias” problem?***

Yes. A direct way to “get around it” is to *measure it*. Researchers did this already in the oral contraceptive and breast cancer debate in which some researchers claimed that women with breast cancer would be more honest about their history of oral contraceptive use. A number of studies refuted this claim by going back to a woman’s medical records and comparing the results of her interview response to that of the written record. All three of the studies that did this found less than a 2% difference between “case” and “control” responses [11,12].

***Q-J: Can the same technique be used in regard to the abortion and breast cancer studies?***

Absolutely. *Most good obstetricians and gynecologists obtain a thorough medical history of their patients especially on their initial visit.* A standard question would be to ask a woman how many miscarriages and/or induced abortions she had. If one wished to measure the degree of “recall bias” between “cases” and “controls,” one could simply compare their oral responses to that of the written medical record. Any degree of bias would be recorded and accounted for.

***Q-K: This seems so basic. Why has it not been done?***

That is a good question. Perhaps the question that should be asked is: Has someone done it and not reported it for fear of going against the bureaucratic forces within the political and medical establishments?

***Q-L: Do women who had an abortion or miscarriage, or used oral contraceptive pills (OCPs) early in their reproductive life develop a more aggressive breast cancer?***

Yes. Olsson et al has noted [13]: “These results indicate that the rate of tumor cell proliferation [ie, rate of growth of cancer cells] is higher in patients with breast cancer who have used oral contraceptives at an early age or who at a young age have had an early abortion. . .”

***Q-M: Do miscarriages carry the same risk of breast cancer as induced abortion?***

Women whose pregnancies end in miscarriage usually do not experience the same increase in estradiol and progesterone (ie, the female sexual hormones) or hCG levels that would result from a healthy pregnancy. Therefore, when a woman experiences a miscarriage, there is a less dramatic shift in hormone levels and less of a “hormonal blow” to the breast. Studies have shown that miscarriages, in general, have less of a risk than induced abortions. However, *several studies show that miscarriages before a first full-term pregnancy (FFTP) may still carry a significant risk of developing breast cancer as noted in Table 2A below. (Further research in this area is critical to determine if an early miscarriage does indeed increase the risk of breast cancer.)*

**Table A:**

**RISKS OF BREAST CANCER IN WOMEN WHO HAD A MISCARRIAGE BEFORE THEIR FIRST FULL TERM PREGNANCY**

<b>AUTHOR</b>	<b>YEAR OF PUBLICATION</b>	<b>PERCENT CHANGE</b>	<b>CONFIDENCE INTERVAL</b>
Pike et al [138]	1981	151% increase	unknown
Brinton [101]	1983	9% increase*	0.8-1.5
Hadjimichael [107]	1986	250% increase	1.7-7.4
Rosenberg [149]	1988	10% decrease*	0.7-1.4**
Ewertz/Duffy [106]	1988	163% increase*	0.83-8.32****
Adami [96]	1990	20% increase*	0.7-2.0
Daling [103]	1994	10% decrease*	0.6-1.3
Rookus [141]	1996	40% increase*	1.0-1.9

\* This result reflects a trend towards an increased or decreased risk but does not attain statistical significance

\*\* Inappropriate age matching in this study: median age of "cases" and "controls" were was 52 and 40 respectively

***Q-N: Is the prognosis of a pregnant woman who currently has breast cancer improved if she has an induced abortion?***

No. Clarck and Chua noted that: “Those (pregnant women with breast cancer) undergoing a therapeutic abortion had a poorer prognosis compared to a live birth and even a spontaneous abortion.” [20] King et al obtained a similar result. “. . .patients who had termination of the pregnancy had a five year survival rate of 43 percent, whereas patients who underwent mastectomy and who went to term had a five year survival of 59 percent.” [21].

**Q-O: What should women be told in general about having an abortion at a young age and the risk of breast cancer?**

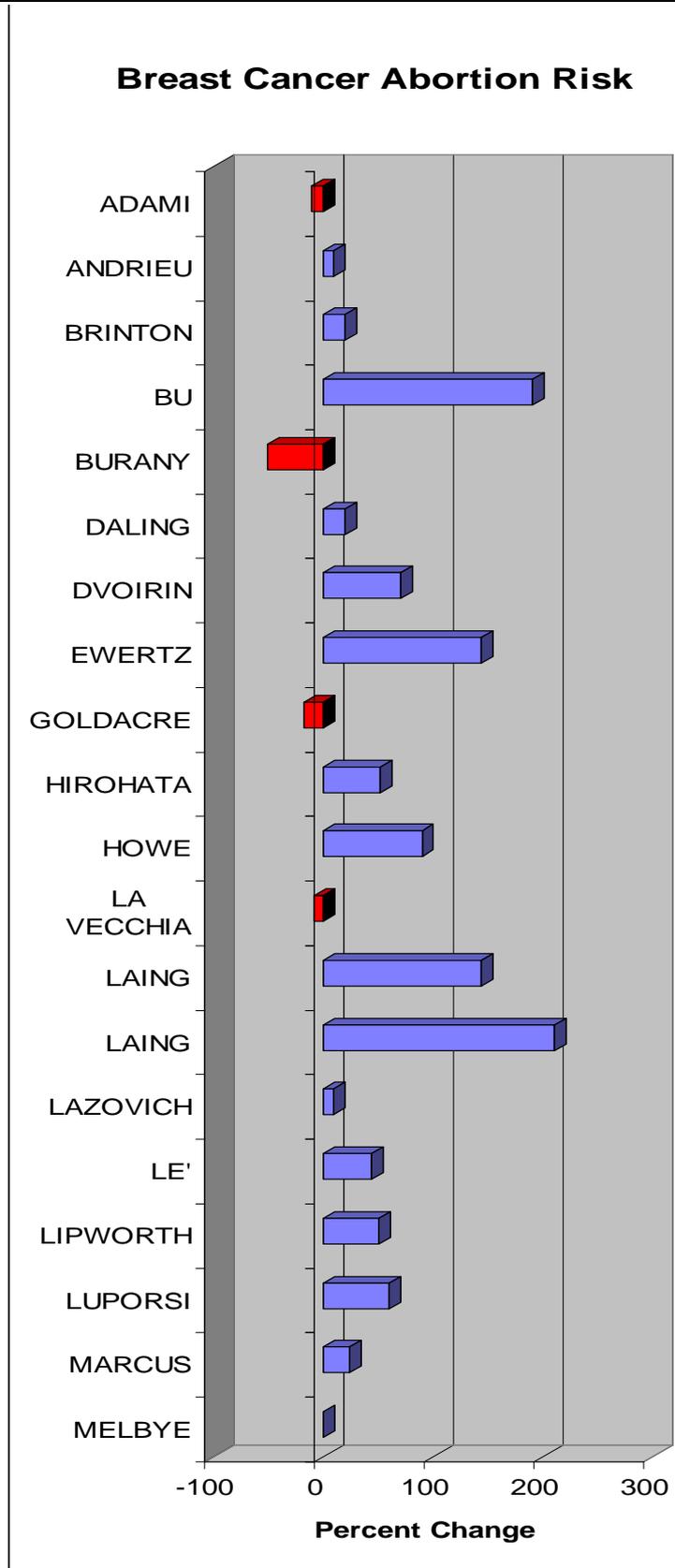
Women who have an elective abortion before their firstborn baby suffer at least a 50% increased risk of developing breast cancer according to the best meta-analysis done to date. The risks are almost certainly higher for women who have had an abortion before the age of 18, or those who have additional risk factors, such as a positive family history or use of oral contraceptives before a FFTP. (The person who is interested in an excellent review article describing the physiologic reasons behind the link between abortion and breast cancer should see Canty's article [22].)

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Currently 28 of 37 Studies Show an Induced Abortion Increases Risk of Breast Cancer



Other Half of Studies

**Breast Cancer Abortion Risk**

