

The Breast Cancer Link

As of February 2000, 27 out of 33 studies in the world wide literature indicate an increased risk of breast cancer associated with induced abortion. Seventeen of the 27 studies are statistically significant, a term which means the data provided at least 95% certainty that the association measured was not due to chance.

How does abortion increase the breast cancer risk? At conception, a woman's estrogen levels increase hundreds of times above normal. This hormone surge leads to the growth of undifferentiated cells in the breast which would end up being used for milk production. These cells are vulnerable to the effects of carcinogens if they remain unchanged in the body. During the third trimester, if the pregnancy continues, hormones turn these cells into milk producing cells and turn off their growth (and cancer-forming) potential. Since abortion interrupts the natural process of breast development, the breast is left with these cells which are vulnerable to the effects of carcinogens.

What about women who have miscarriages? Dr. Joel Brind, a professor of biology and endocrinology at Baruch College of the City University of New York, is the most respectable and well known abortion-breast cancer link researcher. According to Dr. Brind, the breast cancer risk does not usually apply to women who have experienced miscarriages because this often occurs due to insufficient estrogen to begin with.

Dr. Brind has conservatively estimated that there are presently an additional 5,000 to 8,000 cases of breast cancer per year due to earlier abortions and that by the year 2020 there will be an additional 40,000 to 50,000 cases of breast cancer yearly.

One very pro-abortion study author, Dr. Janet Daling said, "I have three sisters with breast cancer and I resent people messing with the scientific data to further their own agenda, be they pro-choice or pro-life. I would have loved to have found no association between breast cancer and abortion, but our research is rock solid and our data is accurate." Her study found a 50% increase risk.

Dr. Daling's study found that teenagers under age 18 and women over 30 years of age who procure an abortion increase their breast cancer risk by more than 100%. Those with a family history of the disease increase their risk 80%. Daling's most alarming finding was that teenagers with a family history of breast cancer who procure an abortion face a risk of breast cancer that is incalculably high. All 12 women in her study with this history were diagnosed with breast cancer by the age of 45.

The citation for her study is Janet R. Daling et al., "Risk of Breast Cancer Among Young Women: Relationship to Induced Abortion," *Journal of the National Cancer Institute*, 2 November 1994, 1584.

John Kindley, an attorney who authored an article for the Wisconsin Law Review in 1999, said "The real significance of a relative risk increase depends upon the background risk which is increased. For example, although smoking increases the risk of lung cancer by a factor of 10.0, the background risk of lung cancer for nonsmokers is very low. By contrast, an average American woman's lifetime risk of breast cancer is about twelve percent. A 1.3 relative risk increase from an induced abortion would therefore indicate about a four percent increase in absolute terms. Estimating a twenty-five percent mortality rate, this figure would suggest that about 1 out of 100 women who have had an induced abortion die from breast cancer attributable to the abortion." ("The Fit Between the Elements for an Informed Consent Cause of Action and the Scientific Evidence Linking Induced Abortion with Increased Breast Cancer Risk," *Wisconsin Law Review*, 1999; Vol. 1998, No. 6; p. 1620.)

The material below is older than the information above. Therefore, it shows that 24 of 30 studies show an increased risk, not 27 of 33. There may be other differences, also.

Model Testimony Outline

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I. The Epidemiological Statistical Link Between Induced Abortion and Breast Cancer

A. The abortion-breast cancer (ABC) link has been established by a preponderance of data consisting of results of thirty independent studies published in thirty-five medical and medical-research journals from around the world. The first study was published in 1957 (Segi, et al.) from patient records dating back as far as 1940 (Watanabe and Hirayama, 1968). Of these thirty studies, twenty-four show an overall increased risk among women who have had any induced abortions, seventeen with statistical significance.¹ Only one study (Burany, 1979) from Yugoslavia, was clearly inconsistent with increased risk.

B. The observation of the ABC link has been highly consistent. While inconsistencies are often cited, these arise from results of studies wherein induced abortion has been lumped together with spontaneous abortion (miscarriage), which has not generally been associated with increased risk of breast cancer. There are straightforward reasons why there is a difference between induced and spontaneous abortion in terms of breast cancer risk (for discussion, see II B).

Regarding the consistency of the observation of the link between induced abortion and breast cancer, one must keep in mind that there are no risk factors which are universally observed to be associated with increased risk, even though they are universally recognized. For example, there are studies which find no association between breast cancer and a family history of breast cancer (Hirohata et al., 1985), although a family history of breast cancer is nonetheless universally recognized as a risk factor.

C. Even advocates of abortion rights do not appear to dispute that there may be a connection between abortion and breast cancer or dispute the need for scientific research on this matter. When Louisiana adopted the ABC wording language that is printed in its woman's-right-to-know booklet, the task force that approved the language was composed of pro-choice members, pro-life members, and state bureaucrats. Further, Louisiana's ABC language was not challenged in subsequent court proceedings. Nor was the ABC language in the Montana and Mississippi laws specifically challenged.

D. The most recent epidemiological studies have confirmed the ABC link repeatedly. The ABC link received major media attention in November 1994 when a National Cancer Institute study was published in the Institute's *Journal*. The author, Dr. Janet Daling *et al.* of the Fred Hutchinson Cancer Research Center in Seattle, Washington. It reported a statistically significant overall 50 percent increase in the risk of breast cancer among women who reported having had any induced abortions.

Since then, a Harvard University study on women in Greece found a 51 percent risk increase (Lipworth *et al.*, 1995), a study in the Netherlands found a 90 percent risk increase (Rookus and van Leeuwen, 1995), a study in mainland China found a 190 percent risk increase (Bu *et al.*, 1995), and three multicenter studies in the U.S. and one in Italy found risk increases of at least 20 percent. (Newcomb *et al.*, 1996; Palmer *et al.*, 1996; Daling *et al.*, 1996; Tavani *et al.*, 1996). All are statistically significant.

E. The ABC link cuts across racial lines. Although most studies on the ABC link were of all white or mostly white women, the five studies on Asian women (four on Japanese and one on Chinese) all showed increased risk. The overall risk increase averaged more than 100 percent (Bu *et al.*, 1995; Hirohata *et al.*, 1985; Nishiyama, 1982; Segi *et al.*, 1957; Watanabe and Hirayama, 1968), and the two studies on African-American women found an average overall risk increase of almost 200 percent (Laing *et al.*, 1993, 1994).

F. The ABC link increases women's breast cancer risk independently of and in addition to the known effect of delaying first childbirth (or first full-term pregnancy), which may be caused by abortion or other means. Of the thirty independent studies on the ABC link, twenty subtracted out the effect of delayed first full-term pregnancy. Sixteen of these studies reported increased risk with induced abortion, ten of them significantly so. Moreover, seven out of ten studies which examined risk among childless women also found increased risk.

G. The consistent observation of the ABC link is not the result of bias in recall-based epidemiological studies. Several researchers have attempted to make a case that the consistent association of induced abortion with increased breast cancer risk is due to response bias. In other words, these scientists hypothesized that breast cancer patients are more likely to tell the truth about their abortion history than are healthy women (control subjects) (Lindfors-Harris *et al.*, 1989, 1991; Rosenberg, 1994; Nichels, 1994).

However, the only report claiming to verify this hypothesis was a questionable paper which relied on the preposterous supposition that women with breast cancer are likely to imagine abortions they never had (Lindfors-Harris, *et al.*, 1991). On the contrary, evidence against the response bias is legion: Howe *et al.* (1989) found a 90 percent overall increased risk among New York State women in their prospective, computer record-based study, a type of study which is not subject to recall bias. They also found with respect to statements made about previous abortions, that there was no difference between patients and controls in the tendency to misreport abortions. Daling *et al.* (1994) found no evidence of recall bias in a study on cervical cancer. (Recall bias would have shown up as an apparent risk increase.) Lipworth *et al.* (1995) found a 51 percent overall risk increase among Greek women who reported any induced abortions, having already established that "healthy women in Greece report reliably their history of induced abortion."

H. Risks are much higher in certain sub-groups who have induced abortions. Daling *et al.* (1994) found that, although the overall risk increase due to abortion was 50 percent, risk was more highly elevated among American women who had an abortion (or first abortion) before the age of eighteen (150 percent) or over the age of thirty (110 percent). They also found that the overall risk was higher for women who had a family history of breast cancer (sister[s], mother, aunt[s] or grandmother[s] with breast cancer; 80 percent), particularly for women who had had an abortion before age eighteen (risk increase immeasurably high since all twelve such women in the study were in the cancer group) or after age thirty (270 percent).

I. The ABC link does not decrease with abortion at an earlier gestational age of the fetus. Only one of the four studies which examined this variable found a significant difference between the risk elevation

associated with abortions before or after nine weeks, (Daling *et al.*, 1994; Rookus and van Leeuwen, 1995; Daling *et al.* 1996). In fact, two of the studies show a tendency for greater risk in the women who abort at a younger gestational age (Rookus and van Leeuwen, 1995; Daling *et al.* 1996). Thus, there is no reason to suspect that abortion techniques that terminate pregnancies earlier (such as RU-486) will ameliorate the risk increase associated with induced abortion. They might even pose greater breast cancer risk.

II. The Biological Basis of the ABC Link

A. Estrogen excess is acknowledged to be the culprit behind most known breast cancer risk factors, and estrogen excess from induced abortion is no exception. Women who enter puberty earlier in life and/or enter menopause later in life have greater lifetime exposures to cyclic, high levels of estrogen secretion by their ovaries, and they are at higher risk of breast cancer. Estrogen (specifically the predominant ovarian molecular form, estradiol) is the best known promoter of breast tumor cell growth. When a woman becomes pregnant, her ovaries begin secreting ever-increasing levels of estradiol, and these levels rise far beyond non-pregnant levels. The effect of all this estradiol is to make the breast tissue grow, including any abnormal cells which may be present. Toward the end of pregnancy, other hormones act to make the breast cells differentiate into cells that can produce milk. This is generally acknowledged to be the mechanism by which a first full-term pregnancy early in life (before many abnormal cells accumulate in the breasts) confers a measure of lifetime protection against breast cancer (MacMahon *et al.*, 1970; Krieger, 1989).

An abortion prevents the differentiating effect of late pregnancy. Thus, the breasts are left vulnerable to attack from cancer cells because they have accumulated the net, growth-promoting effect of high estradiol levels for several weeks. Second, the risk increases independently when a first full-term pregnancy is delayed.

B. Spontaneous abortions [miscarriages], which are not generally associated with excess breast cancer risk, are generally associated with subnormal estradiol levels. Most early studies on the ABC link did not differentiate between spontaneous and induced abortion. Since the overall trend was generally in the direction of increased risk (MacMahon *et al.*, 1970), it was believed that any early (first or second trimester) pregnancy termination was associated with increased risk. However, many recent studies have demonstrated increased risk with induced, but not spontaneous, abortions.

This is consistent with what is known about the hormone levels of early pregnancy. More than twenty years of research have demonstrated that in pregnancies that go on to abort spontaneously, estradiol levels do not rise above the normal, non-pregnant levels (Kunz and Keller, 1976; Witt *et al.*, 1990; Stewart *et al.*, 1993). Levels of progesterone, another ovarian steroid hormone from which estradiol is made and which is essential to maintain the pregnancy, are also subnormal, and that is why such pregnancies usually abort spontaneously. Therefore, in first trimester spontaneous abortions, whether due to inadequate fetal stimulation or abnormal ovarian response, there is no significant estrogen overexposure and thus no increased breast cancer risk.

C. Studies of normal human breast tissue support the age-related patterns of increased breast cancer risk with induced abortion. The patterns described above of greater risk increases for women who have had any abortions before age eighteen and after age thirty (Daling *et al.*, 1994) parallel results of laboratory analyses of normal human breast tissue (from mammoplasty). Russo *et al.* (1992) found higher proportions of more primitive (less differentiated; more prone to become cancerous) tissues in specimens from teenagers and from women over age thirty.

D. The ABC link is supported by experimental work in laboratory animals. Russo and Russo (1980) found that rats whose first pregnancy was aborted artificially were more likely to develop breast cancer (78 percent of the test population) after subsequent exposure to a chemical carcinogen, than were similarly treated rats who were allowed to carry the pregnancy to term (6 percent) or rats who were never allowed to get pregnant (71 percent).

III. The Public Health Impact of the ABC Link

A. In the United States there are already thousands of excess cases of breast cancer annually due to the ABC link, and tens of thousands annually are expected in the next century.

The first cohort of American women to be exposed to legally induced abortion is now in the fifth decade of life, when the risk of breast cancer is 1.5 to 2 percent. Most studies indicate approximately a 50 percent overall increased risk due to abortion. With approximately one million additional women (and girls) per year exposed to induced abortion, a conservative estimate would place at 7,500 to 10,000 the number of excess cases of breast cancer per year currently arising among American women. Although this number is frighteningly large, it is still small in relation to the total number of cases of breast cancer arising each year (about 200,000), and therefore it is easily overlooked.

Far more ominous is the projection for the future: Since lifetime breast cancer risk is currently estimated to be approximately 12 percent, a 30 percent risk increase due to abortion would put the estimate at 3.6 percent of a million, or 36,000 excess cases per year, once the first post-*Roe v. Wade* cohort reaches old age in the mid-21st century.²

The most recent studies of the ABC link, which include more older women who were exposed to legal abortion, show the same trends in relative risk as earlier studies. This suggests that projections such as the above are realistic. Moreover, the one study on African-American women (Laing *et al.*, 1993) suggests that it may be even worse: They found a 50 percent risk increase in women under forty, but it rose to 180 percent among women in their forties and to 370 percent for women age fifty and over. A more recent study (Newcomb, *et al.*, 1996) corroborates this trend for a mostly white American population: A 10 percent risk increase for women diagnosed under age fifty rose to more than a 100 percent increase for women diagnosed at age seventy or over. However, a recent Italian study found no significant trend in risk with increasing age at diagnosis (Tavani *et al.*, 1996).

B. When the ABC link is factored in, the risk of dying from an abortion is found to exceed the risk of dying from childbirth by orders of magnitude. The American Medical Association claims in its 1992 Council Report (Gans *et al.*, 1992) that the risk of dying from abortion is one twelfth of the risk of dying from childbirth. However, this only takes account of the risk of immediate death. But a 50 percent breast cancer risk increase due to abortion would raise the average lifetime breast cancer risk from approximately 12 percent to approximately 18 percent, an increase of 6,000 per 100,000. Even assuming a cure rate of 75 percent, mortality due to breast cancer would increase by 1,500 per 100,000. Since the risk of dying in childbirth in the U.S. is only 6 per 100,000, the ultimate risk of death from an abortion would make it riskier than childbirth by a factor of $1,500/6 = 250$.

[That is, when including the long-term deaths instead of only the immediate deaths, the risk of dying from abortion is not 1/12 that of dying from childbirth, but 250 times that of dying from childbirth].