

COALITION ON ABORTION/BREAST CANCER COMMENTARY

French Study

A French study led by Julie Lecarpentier, which included the esteemed scientist, Nadine Andrieu of the Curie Institute, reported a significant trend among women with increasing number of abortions ($P=0.02$). [1]

In comparison to women with no incomplete pregnancies, the authors found a non-statistically significant 1.29-fold risk elevation among women with a history of induced abortion and a non-statistically significant 1.49-fold increased risk among women with a history of induced abortion and miscarriage.

Lecarpentier's team reported atypical findings among women with BRCA1 and BRCA2 genes that differ from what scientists have reported for the general population. Although experts have long agreed an early first full term pregnancy before age 25 (the younger, the lower the risk) substantially reduces risk for the general population, BRCA1 and BRCA2 carriers benefit from delaying first full term pregnancy until ages 25-29. Nevertheless, full term pregnancy reduces risk for both populations.

For the general population, induced abortion raises risk, but most miscarriages (which primarily consist of abnormal first trimester pregnancies) do not raise risk. By contrast, in the case of BRCA1 and BRCA2 carriers, Lecarpentier's team reported similar findings for both induced abortion (non-statistically significant 1.30-fold increased risk) and miscarriage (non-statistically significant 1.35-fold elevation in risk).

Professor Joel Brind explained, "This can be attributed to the fact that the risk elevation is limited to induced abortion before first full term pregnancy (statistically significant 1.77-fold elevated risk)."

Dr. Brind later added, "Bottom line: Unlike the general population, women who carry the BRCA 1 or 2 mutation benefit from having children later rather than sooner. However, while having a child when young does not confer any significant benefit (i.e. decreased risk), aborting an early pregnancy significantly increases risk (i.e., 1.77-fold risk elevation if abortion occurs before first full term pregnancy). Moreover, although induced abortion after first full term pregnancy does not increase risk relative to no abortion, it clearly increases risk relative to not aborting that pregnancy, as full term pregnancy becomes more and more protective with age in these women. So overall, these women are really not that much different, when one considers the real life situation of already being pregnant: Carrying the pregnancy to term always leaves the woman with a lower risk than would having the abortion."

Chinese Study

A hospital-based study on women in Yunnan province, China led by Che Yanhua reported a significant increasing trend with number of abortions ($P=0.001$). [2] In

comparison to never having had an abortion, one abortion was associated with a statistically significant 2.50-fold increased risk. Two or more abortions were associated with a statistically significant 12.31-fold elevated risk. The study likely produced an underestimate of the risk because its abortion numbers are diluted by a small percentage of first trimester spontaneous abortions, which don't impact risk.

Karen Malec, president of the Coalition on Abortion/Breast Cancer said, "The corresponding author acknowledged to us by e-mail that, even though he and his colleagues did not distinguish between induced and spontaneous abortions, 'Induced abortion is the main method of family planning used by Chinese people for (the) one child policy. Thus, induced abortion is the majority and encounters over 90% of the cases.'"

Yanhua's team argued that recall bias "can have a significant impact on the precision of the information gathered. Cases with BC (breast cancer) in these studies may link abortion to BC by themselves and are likely to provide more complete or even biased information about their abortion history than controls without BC. Such differences in the completeness of reporting can compromise the accuracy of the study results."

Their team provided no citations to support their argument. Western researchers have speculated about recall bias for years, without finding any credible evidence to date that more healthy women than breast cancer patients lie about or forget their abortions. In a nation where a one child policy is vigorously imposed on the population, women are unlikely to be ashamed to reveal their abortion histories.

Additional reproductive risk factors for breast cancer found in the study include: delayed first full term live birth until age 24 or older (statistically significant 1.82-fold elevation); lack of breastfeeding after birth (statistically significant 3.26-fold elevation); and childlessness. One birth decreased risk by a statistically significant 91% in comparison to childlessness.

"Of course, more abortions mean more delayed first full term pregnancies, less breastfeeding, more childlessness, and smaller families," observed Mrs. Malec.

"The Chinese counterpart to America's Roe v. Wade Generation - which, according to the 2001 Annual Report to the Nation on the Status of Cancer, suffered the brunt of the increased incidence of breast cancer (not the two older generations that did not have legal access to induced abortion) - might be called the 'One Child Policy Generation,'" mused Karen Malec, president of the Coalition on Abortion/Breast Cancer. [3] "At least two studies have fingered China's one child policy for being at least partially to blame for an approaching epidemic in 2021 of 2.5 million breast cancer cases among women aged 35-49 years in 2001." [4,5,6]

Yanhua et al. 2012 is the eighth of eight Chinese studies linking induced abortion with increased breast cancer risk. Excluding a 2007 ecologic study on eight European countries finding that induced abortion was the "best predictor" of future breast cancer

rates, 55 of 70 epidemiologic studies report risk increases for women with abortions. [7,8]

References:

1. Lecarpentier J, Nogues C, Mouret-Fourme E, Gauthier-Villars M, Lasset C, et al. Variation in breast cancer risk associated with factors related to pregnancies according to truncating mutation location, in the French National BRCA1/2 carrier cohort. *Breast Cancer Research* 2012;14:R99. Available at: <<http://breast-cancer-research.com/content/14/4/R99>>.
2. Yanhua C, Geater A, You J, Li L, Shaoqiang Z, et al. Reproductive variables and risk of breast malignant and benign tumours in Yunnan Province, China. *Asian Pacific J Cancer Prev* 2012;13:2179-2184. Available at: <<http://www.ncbi.nlm.nih.gov/pubmed/22901191>>.
3. Howe HL, Wingo PA, Thun MJ, Ries LA, Rosenberg HM, Feigal EG, Edwards BK. Annual report to the nation on the status of cancer, 1973 through 1998, featuring cancers with recent increasing trends. *J Natl Cancer Inst* 2001;93:824-842. Available at: <<http://jnci.oxfordjournals.org/content/93/11/824.full>>.
4. "We speculate that fundamental changes in reproductive patterns brought about by China's one-child policy probably contributed most to the incidence boom in the middle-age group. This birth-control policy introduced into Shanghai in 1974, resulted in a fall in birth rates particular in early fertility. The one-child rate in urban Shanghai increased to 90.5% in 1978 and this status has maintained at a high level of 99.5% in the following years. Total fertility rate has remained the lowest in the world, at 0.81 in 2006, lower than that in the most industrialized countries. When birth cohorts are considered, post-1950 cohorts would be involved in birth-control policy and they are also the cohorts related to the incidence boom. This observed trend supports the hypothesis that the alteration of reproductive factors by birth control policy exerts its effect on the middle-age group." [Fan L, et al. Breast cancer in a transitional society over 18 years: trends and present status in Shanghai, China. *Breast Cancer Research and Treatment* 2009;117, p. 414. Available at: <<http://link.springer.com/article/10.1007%2Fs10549-008-0303-z?LI=true>>.]
5. "In China, social change due to economic development and family planning policies such as the one child policy may be making women's reproductive lives more similar to those in Europe and the U.S." [DeRoo L.A. et al. Comparison of women's breast cancer risk factors in Geneva, Switzerland and Shanghai, China. *Preventive Medicine* 51 (2010) p. 497. Available at: <<http://www.ncbi.nlm.nih.gov/pubmed?term=Comparison%20of%20women%E2%80%99s%20breast%20cancer%20risk%20factors%20in%20Geneva%2C%20Switzerland%20and%20Shanghai%2C%20China>>.]

6. "China faces an alarming increase in breast cancer rates, largely because of an increase in risk factors associated with changing lifestyles (Yang et al. 2005). For women 45-49 years, prevalence was less than 100 per 100,000 in 1999 but is projected to reach 121 in 2010 and 145 per 100,000 by 2020 (Zhen et al. 2001). Breast is now the most frequently diagnosed cancer in Shanghai, Beijing, Tianjin and Guangzhou (Gao 1999; Hao et al. 2002; Li 2004; *People's Daily* 2003a; Yang et al. 2004; Ying & Zhang 2003). By 2021, 2.5 million women aged 35-49 years in 2001 are expected to have breast cancer. China is 'on the cusp of a breast cancer epidemic' (Linos et al. 2008)."

[Liu C.-Y. et al. Nursing clinical trial of breast self-examination education in China. *International Nursing Review* 2010;57, p. 128. Available at: <http://www.ncbi.nlm.nih.gov/pubmed?term=Nursing%20clinical%20trial%20of%20breast%20self-examination%20education%20in%20China>>.]

7. Carroll, P. The breast cancer epidemic: modeling and forecasts based on abortion and other risk factors." *J Am Phys Surg* Vol. 12, No. 3 (Fall 2007) 72-78. Available at: <http://www.jpands.org/vol12no3/carroll.pdf>>.

8. Epidemiologic studies: Induced abortion and breast cancer risk. Breast Cancer Prevention Institute. Available at: <http://www.bcpinstitute.org/FactSheets/BCPI-FactSheet-Epidemiol-studies.pdf>>.